

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXIII.

SATURDAY, JULY 1, 1893.

No. 1.

ORIGINAL ARTICLES.

CLINICAL LESSONS.

The Treatment of Sciatica.

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I PROMISED that these clinical lessons should sometimes consider for you such peculiar therapeutic methods as are in use within our walls. Accordingly, I call your attention to-day to certain points in the diagnosis and treatment of sciatica.

Under this name the books include true neuralgia, without demonstrable organic changes in the nerve, and the graver pain which is due always, as a rule, to some grade of neuritis.

Let us admit that the first class is seen in practice in all degrees, has a great variety of parentage, and at times many parents, or haply none that can be found.

To men like you, advanced students, clinically watchful, it is needless to say that the milder sciatic neuralgias are sometimes of malarial, gouty, rheumatic, syphilitic, anæmic, or other origin, mere functional disorders like the typical fifth-nerve neuralgia. Be this as it may, I am sure that more often than elsewhere these pains, whatever be their cause, are likely to become permanent and to pass into distinct forms of organic disease of the sheaths, and, at last, as remoter possibilities, into neuritis, with degenerative changes in the nerve-tissue. Too often you can detect no distinct cause, or find that you must fall back for explanation on a general lowering of tone, or on relatively slight anæmia, or something as trivial in appearance. The strange causes, the reflex visceral parentages, the lucky decayed tooth, etc., are, alas! too rare, but serve at best to keep us watchful and to make the text-books less dull reading by introducing the pleasant unexpectedness of romance.

I pause here to urge on you the fact that every human being has a different standard of resistance to the effects of anæmia, malaria, or any of the varied forms of blood-defect or mal-assimilation. What does not depress one is serious for another. Also I ask you again to remember that frequently a neuralgia has many parents. Over-work, over-worry, or a hemorrhage may cause anæmia, and out of this may

come functional gastro-intestinal failures, and these in turn may occasion lithæmic disturbances, or make available for mischief the effects of exposure or accident.

Possibly, at times, old and long latent syphilis is answerable. Such a case meets with a fall on the buttocks, and thus acquires, owing to the constitutional poisoning of the patient, capacities to develop an obstinate neuritis. The type and severity depend upon the hygienic surroundings and the past history. An English writer declares that he has never seen causalgia such as we saw from 1861 to 1864, nor have I so seen it since, because men worn out with marching, soaked with malaria, or exhausted with exposure and diarrhoea are not now the subjects of wounds from minie-balls.

For the unthoughtful there is only the final accident, for the man who thinks there is link on link of the chain of preparatory states, and it were easy to illustrate them further. This is, however, to be only a lecture of hints, and I pass on.

Before considering the ordinary sciaticas I pause to say a word as to sciatic pain of which the cause is organic and lies within the pelvis. You cannot be too watchful as to this source of trouble. When you find extravagant pain down the nerve, be careful how you decide. Sciatic neuritis is a very painful malady, but the pain caused by the squeeze and inflammation of rapid intra-pelvic carcinoma is a far more terrible thing, and the grade of pain may help you in your decision. In any case of doubt, the rectal examination should be thorough.

Several times in my life I have seen the causal diagnosis of a furious sciatica made on the post-mortem table, by the discovery of a saddle-like growth astride of the cords of the parent plexus. If the tumor be small, palpation is useless as a guide, and the best of us may be baffled. At times a large growth rewards our search. Twice I have seen accumulations of feces sufficient to give rise to irritative pressure; one got well, but one, which had been treated for multifiform malignant tumors, was so regarded up to death and perished miserably. The post-mortem section showed enormous fecal accumulations of a hardness such as caused one of the assistants to think they were masses of calculi. In this case the pain was in the right sciatic nerve.

Benign tumors or growths of syphilitic origin may act within the pelvis to cause sciatic pain, as the following interesting case serves to show.

L. B., forty years of age, a planter, states that sixteen years ago he had a sore, then said to be syphilitic. He has had no secondaries of which he was ever aware, but has all his life been subject to herpetic eruptions on the glans penis. He has been, over and over, pronounced to be free from specific disease. In August, 1891, he began to have vague aches in the occiput, the right knee, and the thigh. In September, he had pain in and about the sciatic notch and down the leg. These aches became worse, especially below the knee, and at last almost deprived him of power to stand or walk. At night, after twelve, his pain was so intense that morphine became essential. His case on entry here was too easily taken for granted by me as an ordinary neuritis, and subjected to the usual treatment. When this entirely failed, I began to suspect that we were dealing with sciatica of an unusual type. In making the re-examination which this suspicion caused me to undertake, I found at the middle of the right thigh a smooth swelling of the bone. If, as seemed likely, this was a node and specific, it became clear that it was in no way competent to cause the pain. But it was as clear that there might be within the pelvis or at the notch a similar growth, so placed as to compress and irritate the great sciatic. One week of full treatment by iodides led to rapid lessening of the external node and to a swift extinction of the pain. After a few weeks he was dismissed cured.

It is also well to know that childbed may cause sciatica. I knew many years ago of one woman who always suffered from two to three weeks after labor with double sciatic pain, and at last, after a labor in which there was profuse flooding, she was afflicted with a left-side sciatica for many months. Some pain in these nerves you will all hear about in childbeds, and I may add that to strain at stool may cause increase of suffering to a patient tormented by sciatica, and even to rheumatic people who are without distinct neuritis.

Of the terrible sciatica of alcohol I need say nothing here, and that lead or arsenic may cause sciatic neuralgia of neuritic type is also to be remembered.

Strange as it may seem, one may be misled for a time as to diagnosis by a subacute inflammation of the hip-joint with aches about the knee, slight wasting, and stiffness. As between this and the sciatic pain which exists chiefly in and around the foramen of exit and has caused nutritive changes in the gluteal muscles, one may at times be troubled. At all events I have seen surgeon and physician err one way or another as to these maladies.

And now as to one or two matters connected with sciatic pain, before we consider the treatment of sciatic neuritis and the neuralgias likely, under conditions adverse to recovery, to eventuate in the more serious malady. I shall presume upon your full knowledge of the symptoms of sciatica. The gait,

the wasting, the pain-points, and the hyperæsthesia or anæsthesia I may pass over as familiar. But look now at the case I show you from McCormick Ward. When this man entered here he had violent pain at the sciatic notch on carrying the leg forward. A case near by, now well, had pain down the leg on putting the leg far back, and at each step as the leg on which he stood was at its extreme limit of backward position. The forward swing eased him. A case seen last year fell as if shot when he stood on the lame leg, the pain darting down the limb from the notch. A few years ago I saw a still worse example of this form of pain. In this latter case, after long treatment, I found that very deep pressure at or over the notch caused acute pain. Finally, we cut down (I think it was Dr. Morton who operated) and found a small, round, hard, fibrous growth just over the point of exit of the nerve. Its removal brought about a speedy recovery. To fully extend the leg in sciatica always gives increase of pain, and some sciatic patients carefully limit the length of their step so as not to make any pull on the nerve.

Walking exercise usually makes the pain of sciatic neuritis worse. The cause is, perhaps, not as simple as it may seem to you. Of course, it is natural to presume—is, I think, generally taken for granted—that the rhythmic tension of the muscles at the notch squeezes a swollen nerve as we walk or stand, and so increases the pain.

I have taken some pains to see how far this may be true. The result of a brief study of dissections made for me by Dr. Addinell Hewson, that I might investigate the matter, proved of interest, especially as the anatomies did not make it entirely clear.

The great sciatic emerges from its foramen with ample space around it. Then it lies in an irregular triangular gutter between the tuber ischii and the great and lesser trochanters. This space is over-large and narrows or widens as inversion or eversion of the foot and leg turns the head of the bone inward or outward. Above or posteriorly, this deep gutter is covered by the gluteus maximus. At the lower edge of this muscle the deep fascia turns under it and then is reflected downward, so as to roof over the lower part of the sciatic gutter with dense covering, which is attached to the ischial tuberosity and to a part of the lesser trochanter. This fascia thus forms a strong tentorium, protecting the nerve more or less from external violence. The pyriform muscle, which overlies the nerve, is so situated that it crosses where the nerve, lying rather free in its notch, could, even if swollen, with difficulty suffer from the action of this muscle. In front of the nerve lie the quadratus and gemelli and the tendon of the obturator. When these muscles swell in such contractile effort as everts the foot, they may more or less press upon

the nerve, but the consentaneous action of the tightening mass of the glutens must tend to enlarge the cavity in front of it and make tense its roof, so that unless immense swelling of the nerve be present the activity of these muscles could scarcely cause pinching or pressure of moment.



Anomalous high division of great sciatic nerve, one branch passing through piriformis muscle.

Dr. J. M. Taylor called my attention to the fact that in 1600 sciatic nerves there were 49 anomalies of a nature to quite surely cause pain in a swollen nerve when the piriformis acts. In these anomalies the nerve divides so that one part goes through the belly of the muscle—as is well seen in Dr. Taylor's sketch. As a fact, eversion or inversion of the foot rarely gives rise to increase of sciatic ache. We must look elsewhere for explanations. It seems to me probable that the forward swing of the leg in walking may be felt because at its full limit it must repeatedly stretch the nerve a little, and very little is needed to hurt an inflamed nerve. Thus, going up stairs, which stretches the nerve far more, is painful. Also, we should remember that the thigh muscles, bound down by tense fascia, must in action somewhat compress the nerve.

Whether the exceptional cases of violent anguish referred to the notch on standing are due or not to the anomalous peculiarity mentioned I cannot say.

Very rarely, it is the backward motion which causes pain, and for this I can see no explanation.

I suspect that very often the pain increased or reproduced by walking is due to more mysterious causes, which are of central origin and analogous to such as are present in facial neuralgias, when the patient chews or swallows, talks or laughs. Then

there seems to arise a sudden reinforcement of capacity to feel pain on the part of the nerve-centers. It is also quite sure that certain sciatic cases are eased by exertion; probably these are not cases of neuritis.

I wish to say a few words as to the time of the exacerbations of pain in sciatica. I have studied with some care the hour of greatest pain in neuralgias, and I think I may be secure in stating that for fifth-nerve neuralgias it is likely to be before noon, and for sciatica, after 4 P.M. In many cases it is between 12 at night and 4 A.M.; these figures are the results of an examination of something like a hundred neuralgias.

Whilst this holds good for our climate, it may be quite untrue elsewhere, as in the South or in England. I mention this, because abroad the remarkable statistics of my clinics, as to chorea and our seasons, and of Dr. Morris Lewis's admirable studies, both of chorea and of rheumatism in relation to seasons, have been doubted, or described as not having been confirmed by European observers. It would be odd enough if they were, as almost inevitably the relation of pain or other morbid phenomenon to time of day, or year, must differ in one continent from another, and it is the comparative results which become interesting.

As regards this question of the time of pain-occurrence there are valuable papers by myself¹ and by Captain Catlin,² U. S. A., which exhibit, as concerns a remarkable case of traumatic neuralgia, a curious tendency to concentrate pain at set periods of the day.

Sciatic pain tends to be worse at night. The treatment should, so to speak, follow it into this period; and this is why I have so insisted here on the time-question.

And now, let us pass on to the treatment. If you turn to the text-books, as to this and other well-studied diseases, you will find a bewildering list of drugs, and mechanical and other treatment mentioned with the constant introduction "So-and-so has been or may be used"; also, "G recommends this, K that, in this disorder." Dropping all this puzzling list of drugs, and what not, I shall now tell you what I usually do here, and do *in succession* in these cases, as improvement or failure makes desirable. In private practice you cannot always do at once as you wish to do, or think really best. Except as to that which money brings—change of climate and the

¹ "Relation of Pains to Weather," by S. Weir Mitchell, M.D. Amer. Journ. Med. Sciences, April, 1877.

² "Relations of Pain to Weather, Studied during Eleven Years of a Case of Traumatic Neuralgia," by Captain R. A. Catlin, U.S.A., with Notes by S. Weir Mitchell. Transactions of the College of Physicians, Philadelphia, 1883.

Memoirs of Nat. Acad. Sci., 1892. Final report by Capt. Catlin.

like—and as far as mere immediate treatment is concerned, the poor, in a hospital like this, have sometimes a better chance than the rich or highly placed, as certain illustrious precedents may prove.

If in the text-books the list of drugs and counter-irritants were followed by a clear statement of what the author advised in mild or in grave cases, these books would acquire a definite and individualized value. One may read all that Gowers, or Gray, or Dana says, and, if young in practice, rise without the least distinct idea as to just how these men treat their own cases of sciatica. You may rest assured that they are more definite in their practice than might be inferred from their books. The treatises on mere therapeutics are yet worse. In one is a list of forty agents which may be used in sciatica.

Let us say we have to deal with a mild case, a first attack. The usual careful search through the organs and secretions has been made. Any obvious constitutional disorder is provided for. What next? As to this, all are at one—rest in bed, constant and prolonged till recovery is assured. Few things are as valuable as dry cups, if you use them thoroughly and early. Very effective is a double or even a triple row of cups all around and over the notch and down the leg, along the nerve-branches to the ankle. There should be some three dozen cups simultaneously applied, and they should remain on half an hour, but not blister. This measure is repeated the next day; then two days later, and this alone may answer. Or, if for any reason you cannot do this, put on mustard, at least three inches wide, from notch to ankle; or, at least, to the knee. Add a little molasses to the mustard, and you can then leave it on for hours; and this, too, may answer. Some of the elder doctors, like Pearson, knew the fact that very extensive moderate counter-irritation is often better than limited and more severe attacks on the skin by irritants.

If these means fail, what is to be done next? As to this I hesitate no longer, but go on at once to the means I now employ in chronic cases. But, at the beginning, and perhaps later, until you can permanently ease the ache, it is needful sometimes to use narcotics. Cocaine is the best, in from one-fourth to one-half grain hypodermatic injections. How rarely we use narcotics here, even in our worst cases of sciatica, the resident physicians very well know. If you prefer morphine, give one dose at about 8 or 9 P.M., and get rid of it soon.

But suppose the disease intractable? Let us take the case in which mild irritants, rest in bed, and constitutional means have failed; or that of the old hospital guest who has carried pain with him from ward to ward this year or two.

Consider a moment the attitude and ways of a really severe case of neuritis, and let us see what

guides these obviously offer. The man lies in bed with the leg slightly bent at the knee and hip. If he wishes to turn, he keeps the limb rigid—splints it, let us say, by the use of his muscles, aids it with the stay of supporting hands. Also in the exacerbations, in the anguish of the night's increase of pain, a touch, even slight friction of the bedclothes, increases the distress. It was while watching such a case that it occurred to me to use a splint to keep the limb quiet. If I could by this means forbid the use of muscles, I should thus far secure to the nerve physiologic rest, which, for many reasons, seemed desirable. If *free* motion gave pain, *all* motion might be relatively hostile to recovery. At a much later date I was struck with the familiar fact that contacts—sudden, rough touch, as of the bedclothes—were able to increase the pain in certain cases. It seemed to me as I considered the matter that all contacts might be hurtful, and that by a bandage I could secure the surfaces from these, and thus still further insure to the nerve functional repose. Finally, it was possible that the bandage might, by gentle, firm, general pressure, lessen the amount of blood circulating in the leg, and thus ease, just as one eases an aching finger by firmly grasping it. My success seems to be a justification of the reasoning; but that is of little moment. There is much good treatment we cannot explain.

There are many ways of doing these two things. But whether you suspend the leg in a splint, or use wire or moulded splints, the splint must check motion at the hip and knee. This is the essential matter. The bandage must be pure flannel, and reach from foot to groin. I have used rubber or elastic stockings, and also combined the splint with pressure by plaster or other splint dressings. Practically here we use for all true sciaticas a firm bandage from foot to groin and reapply it twice a day. The leg is slightly bent at the knee, and kept extended at the thigh, and in this position secured to a light side-splint from axilla to ankle by a few turns of a bandage. Care is, of course, taken to prevent pressure on the heel. After a few days the joint-angles are slightly changed at each dressing. Still later, as the pain fades, the joints are mildly and passively exercised whenever the bandages are renewed. Usually three weeks must pass before we can begin to abandon treatment; a much longer time may be needed for old cases. Finally, we take off the splint *in the day* but leave the bandage on. At night we replace the splint. Later we give up the splint and, with the presence or absence of pain as our sole guide, in like manner we omit the bandage, now in the day, and finally at night, but not at all until the patient has begun to move about, and perhaps not then.

Meanwhile with cod-liver oil, iron at need, good diet, care as to the bowels, never allowing a costive

passage, forbidding effort at stool (preventing it by hot enemas)—by these means, I repeat, we carry the man through. When the pain has quite gone we use mild massage once a day before replacing the bandages. The process must be careful, with avoidance of roughness.

There may be left, near the close of this treatment, one or more points of persistent pain, not often severe. These are best treated by counter-irritants, the best being the light touch of a white-hot Paquelin button, or a small blister.

The getting up of a severe sciatic case is not unimportant. Motion, the full use of the leg and buttock muscles, and the pressure of the hard edge of a chair, or close stool, are likely to bring back pain. Hence, *we do not allow a man to sit at all the first week* that he is up. He must at first stand, and then walk, but always, whether he walk or stand, it must be with the aid of crutches. He may be upright, on a bed, but not seated. Electricity is rarely needed, even if there has been much wasting. With exercise and massage, or without the latter, the muscles easily get strong.

I have said no word of the use of continuous cold so much employed here before the bandage and splint combined were found to triumph readily over most cases. It is still occasionally employed. The method I have elsewhere detailed at length in the "International Lecture Series." It gives us a resource of great value if the less troublesome plan fails; and failure is rare unless the neuritis has gone up the nerve into the sacral plexus, or unless the pain is really spinal in its origin. My former published cases involved ice and splint-rest. Those I have shown you of late were treated chiefly with the tight bandage and long splint, to which you may add ice-bags at need. The rapid gain to be had in an old case of sciatic pain out of these means—the flannel bandage, splint-rest, and ice—must be seen to be fitly appreciated, and I may add that in mild cases the tight bandage used alone is often of value. I do not claim for these simple means any such certainty as seems usually to be demanded from novel methods. I find, however, that I rarely fail, and that my colleagues, like myself, are using these means. It is with me an old treatment, for in 1872, in my book on *Nerve Injuries*, p. 72, I used these words:

"When the disease is really subacute and the nerve tender on pressure for some considerable part of its length, I insist upon the most absolute rest. If it be the leg which is attacked, the patient must go to bed and consent to wear a carved splint for several weeks. If it be the arm a splint answers to put it in a state of repose, and without this it is vain to employ other means.

Cold should be used over the nerve-track by means of Chapman's spine-bag, or better, by such as are now

made by the Davidson Rubber Company, which are thinner than those of English make. The caoutchouc bag should be inclosed in a case of thin flannel, and may then be kept *in situ* by a splint and a bandage, if a splint be worn. In most instances I have used them over nearly the whole length of the main nerve, and have usually contented myself with their employment in the daytime. In some cases, however, I have had them renewed twice in the night, and this plan I believe to be the better of the two. The only difficulty lies in the first pain from cold, and is easily overcome. The relief afforded is often remarkable, and the loss of the nerve in size, hardness, and tenderness most gratifying."

The following briefly stated cases, for which I am indebted to Dr. J. M. Taylor, sufficiently illustrate my practice. Many more might have been added:

J.M., thirty-six years of age, born in Ireland, a carpenter, as a boy had some kind of bone-disease, involving the left tibia, with a purulent discharge. Eight years ago he fell forty feet, hurting his left hip. He drank rather freely of whiskey, smokes excessively, and denies venereal disease. There was no neuralgia in the leg until three years since, when it began with a dull pain in the region of the sciatic notch, and passed along the outer aspect of the thigh to the knee. The pain is now confined to the course of the left sciatic nerve; it is constant and worse at night; it is increased in the act of sitting down, and on rising from this position there is much less pain.

Examination of the various organs proved negative. A scar was found on the left leg, at the junction of the upper and middle thirds of the tibia; there is another a little posteriorly to this, and a third a little lower down; these resulted from an old sore, which finally healed ten years ago. The pupils react to accommodation and light; knee-jerks and elbow-jerks, and plantar reflexes, etc., are normal.

The measurements of the thigh, nine inches above patella, were: R., 21 in.; L., 18 in.

The thigh, six inches above the patella, measured: R., 18½ in.; L., 16 in. The calf: R., 13 in.; L., 13½ in.

He differentiated well as to touch, tested with the æsthesiometer in the distribution of the left sciatic, also on the hands and feet; localization was good; urine analysis was negative.

The patient was admitted to the hospital February 18, 1892, in a state of extreme suffering.

The treatment ordered was absolute rest, good diet, milk between meals, iron and quinine, flannel bandage, and massage. He managed, with phenacetin, to do without opiates, and on the fourth day of treatment he ceased to feel acute pain.

On March 3d no pain was complained of and the splint was removed; the limb was kept straight.

On March 14th the weight cautiously put upon the left leg was followed by no pain on movement or pressure.

On March 30th the man was well able to move freely without pain; no cautery or treatment other than the bandage and splint was carried out, massage having been abandoned early. He had a slight

relapse on the 16th, owing to his having risen incautiously and without a crutch, to assist a patient. This was a clear case of sciatic neuritis, with much wasting.

DOUBLE SCIATICA.

K. P., a porter, fifty-seven years old, a German; married, with seven children; was never ill until December, 1891, when he had what he describes as a bilious attack, which kept him abed three weeks. He broke two ribs three years ago. There was no evidence of syphilis. In October, 1891, he had a rheumatic swelling of the right ankle. A little later the pain extended up the line of the posterior tibial nerve, and generally along that of the main trunk. It was worse upon exertion, and was eased by recumbency. Nevertheless, he went on with his rather heavy work until, after exposure to wet, the pain became far worse and the knee somewhat stiff. At times he could no longer walk, and had also aches in the back and in the left leg.

In August he had severe cramps in both legs, and limped increasingly. Still, under dire pressure of need, he continued to work. Late in August he had solar exhaustion, and at the Pennsylvania Hospital was treated by ice-rubbing. This, he thinks, chilled him severely. The next day intense pain arose in the left leg, grew worse, and he became able to work only intermittently. The pain now (October 14th,) on admission, is very severe over the right sciatic and in the thigh and the calf of the right leg. There is, also, pain on pressure, but none in the sciatic notch or in the popliteal space. In the left leg pain is very marked on pressure along the entire course of the sciatic. There is no pain in the back.

Measurements.—Thigh: R., 18 in.; L., 16 in. Calf: R., 13½ in.; L., 13 in. Dynamometer: R. hand, 125; L. hand, 125.

The knee jerks on both sides are normal, and there is no clonus; the elbow-jerks on both sides are normal, and there is no impairment of muscle-jerks; sensation is everywhere good; the heart, lungs, kidneys, etc., are normal. To stand long occasioned pain in both legs, especially in the thighs; walking is difficult and painful. In November, 1892, on taking charge, I found this man in bed, having had elsewhere many forms of treatment, all unsuccessful. He was ordered full diet, rest in bed, with flannel bandages to both legs. On the third day he became nearly free from pain. Thereafter the usual changes as to splint and bandage were made. It seems needless to repeat them.

On December 2d he was allowed to walk a little on crutches, but not to sit down. Two pain-points in the upper thigh were lightly cauterized. He was discharged December 12, 1892, apparently well. This appears to have been a case of true double sciatica, probably rheumatic. I learn that he is now (April 1st) well and at work. The immediate effects of the splint and bandage were very gratifying.

G. C., sixty-five years of age, is a machinist; he drinks and smokes moderately; is very rarely ill. During the War he had "camp fever." He denies venereal history. He is married, with five children

living and four dead. Suddenly, six weeks ago, pain began in the left hip and leg; the left foot feels asleep quite constantly; the pain grows worse at night, on change of weather, on rising from a chair, and while walking or going up steps.

The man is pale and thin and has the gait of one in much pain; the left leg is held stiffly. The left knee-jerk is slightly in excess of the right. Pressure over the left sciatic notch causes pain, and also along the course of the nerve. He was admitted to the hospital March 5, 1892, and was ordered absolute rest in bed, flannel bandages, straight splint, extra diet, milk, iron, and cod-liver oil. On March 10th the report says that the pain disappears in the daytime, but remains at night, sufficiently, at times, to keep him awake. On March 13th all pain has disappeared, except a soreness over the external condyle of the femur and external malleolus where it is in contact with the splint. He now sleeps well. On March 18th all pain is lost, even upon deep pressure. On March 21st the splint is removed in the daytime, but the limb is to be kept in extension and quiet. The splint was applied at night until the 26th inst. The bandage was constantly used, and he walked with crutches. He has had slight relapses, necessitating the use of the splint for a day or two. On March 28, 1893, he was discharged, well—a rapid recovery.

October 14, 1892. P. G., fifty years of age, had sciatica and erythromelalgia. The family history was negative. He was a married man with six children, all well. In the army he had a bad attack of measles followed by dysentery, and later typhoid fever; he was ill five months. After the War he had malarial fever. Seven years after the first attack of dysentery he had a second attack which lasted five years, during which time he passed much blood and mucus; most of this time he continued at work and often voided twelve stools daily. In the last five years the man had been pretty well. He had never had any special injury, but has not been very strong since the last attack of dysentery. He worked as a lumberman for five years, being out in all weathers. In January, 1889, he began to work in the coal mines. Since his army life he has had some fleeting rheumatic pains now and again. The present trouble began January, 1889, while at work in the mine, with severe shooting pain in the right arm and shoulder, noticed while at rest, but disappearing on motion. This lasted three weeks. He sleeps habitually on the right side and had need to keep the arm flexed. One month after this, pain began in the left hip, shooting down the course of the sciatic to the calf and ankle, and being of greatest intensity from the knee to the ankle. He was then confined to bed four weeks; on the slightest movement the pain was much increased; this gradually lessened, but the man was unable to work for five months. He describes the pain, when it began, as a "burning and crawling sensation in the right leg, as if the flesh was on fire"; this continued in both feet in very severe degree; he could place his right foot on the floor, but not the left one, on account of excessive pain. After two months' treatment he had improved, but was unable to work for five

months. He was pretty well until January, 1892, at which time pain of similar kind, but more severe, attacked the back and left hip, seeming to warp the body to the left side. Much pain was caused by any attempt to straighten the body, shooting down the left leg into the foot and toes. He was again confined to bed for four months. He was in the Jefferson Hospital in May, 1892, for five weeks. He finally was well enough to go home, but could not walk, and on arriving the pain grew worse. Since May, while standing with the left leg pendent, the blood seemed to accumulate in the foot and leg up to the knee and cause intense pain.

The left leg is noticeably shrunken and flabby; there is considerable pain on pressure over the sciatic notch, with soreness over the calf muscles; but none in the popliteal space; there is no shortening of the limb. The foot is red and hot.

Measurements.—Thigh: R., 17 in.; L., 15 in. Calf: R., 12½ in.; L., 11 in.

There is slight clonus in the left leg; but none in the right; the knee-jerks on both sides are normal; the plantar and skin reflexes are normal; there is slight hyperæsthesia in the left leg below the knee; the heart, lungs, etc., are normal; the bowels are inclined to be loose and irregular; the appetite is fair; the digestion poor.

This man, while in the standing position, declares himself unable to allow his heel to touch the ground, asserting that it would pain so increasingly and furiously as to "drive him wild." There is also pain on pressure over the entire sole of the foot; pressure also caused an intense flushing of the surface.

The treatment ordered was absolute rest, flannel bandages, the straight splint; massage, except to the left leg; cod-liver oil, malt, extra food, iron, quinine, and strychnine.

On October 26th the pain was so intense that ice was applied. On December 2d, the vasomotor difficulty not lessening satisfactorily, the left leg and foot were elevated. Internally, sodium phosphate was ordered, forty grains, in hot water, an hour before meals, to relieve the constant catarrhal condition of the stomach.

On December 19th the man was very much improved in respect to the sciatic pain; he gained in weight and vigor, and he was allowed to go home on the 20th, as he declined to remain longer. He still wore the flannel bandage and used crutches. The flushing of the foot was not better; the hyperæsthesia of the member was little altered. As usual in my sad experience of erythromelalgia, nothing did much good for the foot, although heat, cold, electricity, and massage were used with care, and I give the case as it left us, because of the great gain in the sciatic pain, which, if not well, was vastly bettered by local rest and the bandage. The long elevation of the leg and foot seemed to make the nerve-tracks more tender, a result which I have seen before and since, nor did it help the vasomotor complications. I presume this man to have a quite distinct case of erythromelalgia, with sciatic and terminal neuritis.

You may with reason ask what I do if the treatment by splint-rest and bandage, or by splint-rest and ice, fail. At first, to clear my experimental therapeutics from needless doubt, I used these means only in cases which I was sure were sciatic neuritis, and this alone. I have elsewhere recorded the results.¹ Of late, and since I felt secure as to my process, I and others have used these means in cases of more dubious nature—in double leg-pain, in those who had certainly troubles in the lower cord. In such examples of sciatic pain of central origin there have been many failures to record—many cases in which splint-rest did no good, or little. In the true sciatic cases which finally defy all medical means, there remains for consideration nerve-stretching. I have seen it fail when my own milder means succeeded. I believe that when surgical nerve-stretching is employed we should at once follow up its use by that of the roller and splint-rest. Some of the relapses which follow its successful use have, I am sure, been due to neglect of the precautions with which in every case of neuritis I desire to surround my patient. In conclusion, I desire to add that I do not look upon splint-rest and the bandage as certain to cure all sciaticas; but as sure to relieve or cure most cases, and as valuable adjuncts to whatever other means becomes desirable.

SUPRA-PUBIC CYSTOTOMY IN TWO STAGES.

By N. SENN, M.D., Ph.D., LL.D.,

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SUPRA-PUBIC cystotomy for the removal of stone in the bladder, the operative treatment of intra-vesical tumors, or the formation of a temporary or permanent fistula in obstructive diseases due to enlarged prostate, has become a legitimate and permanent procedure in surgery. The technique of the operation is destined to undergo improvement. Distention of the bladder and rectum renders the prevesical space more accessible, and Trendelenburg's position is of great value in all supra-pubic intra-vesical operations. If the bladder itself is healthy, the high entrance into the organ for therapeutic purposes can be effected with little or no immediate or remote risk to life. In such cases the ideal after-treatment would be suturing of the vesical and external wounds, thus placing the parts in a condition for healing of the visceral wound by primary intention. Such a result has been obtained only in exceptional cases, even by surgeons of large experience and specially skilled in the performance of the operation.

¹ International Lecture Series.

Attempts have been made to prevent contact of septic urine with the recent wound by resorting to drainage of the ureters after supra-pubic cystotomy. C. Willems¹ advocates this practice, which, he states, is a delicate yet perfectly practicable procedure. In hypogastric lithotomy it is advisable, whenever union of the wound in the bladder is important and subject to prejudicial influences—in fact, whenever the urine is unhealthy and septic. The ureters should also be drained after the removal of a vesical tumor, whether by hypogastric or perineal incision. The wound is thus protected from contact with morbid urine, and antiseptic plugging of the vesical cavity is permitted.

The patient is placed in the Trendelenburg position, the pelvis being raised about fifteen inches from the table. The abdominal viscera no longer press the walls of the bladder in contact, and the trigone can readily be seen through the hypogastric incision. A catheter, with a Y-shaped extremity, is then passed backward through the urethra. The two branches are next introduced into the ureters. The procedure is a delicate one; the upper part of the mucous fold over the orifice of the ureter must be seized with forceps of the kind used for fixing the conjunctiva oculi. Otherwise the very movable vesical mucous membrane may be pushed forward. As the vesical part of the ureter is a narrow funnel, the passage of the catheter needs skilful manipulation. The ureter tolerates the catheter very fairly. In a case of Pawlik's the woman tolerated its presence for forty-eight hours; in Schede's (operation for utero-vaginal fistula), for seven days; and in Albarran's (also a woman), for ten days. The catheter thus allows full time for perfect union of the vesical wound.

This after-treatment is too complicated and difficult for the average surgeon, and in many cases of septic cystitis it is not applicable. Most surgeons have, therefore, discarded primary suturing of the visceral wound and rely on drainage and healing by secondary intention. Healing of the wound usually takes place in from four to eight weeks. Future research and experience will undoubtedly enable us to devise some means by which primary healing of the wound will be the rule and not the exception in such cases, and thus shorten the period of recovery to a minimum. The matter is, however, entirely different when supra-pubic cystotomy is performed in a case in which the bladder is the seat of a septic cystitis, and such cases most frequently require the services of the surgeon. The adipose and loose connective tissue in the prevesical space, which constitutes a considerable part of the supra pubic route into the bladder, is exceedingly susceptible to

infection with pathogenic microbes. The urine in such cases is ammoniacal, toxic, and irritating, and, when brought in contact with the prevesical tissues, exceedingly prone to cause necrosis. The pus-microbes contained in decomposed, putrid urine find in the prevesical space the most favorable conditions for the exercise of their specific pathogenic properties. Under such circumstances the wound frequently becomes the seat of sloughing and phlegmonous inflammation, in spite of the most rigid precautions. Suturing of the margins of the vesical wound to the abdominal incision furnishes no protection against this complication. The same can be said of drainage of the bladder and packing of the wound with iodoform-gauze. I have lost two patients from extensive sloughing of the prevesical and paravesical connective tissue. In one case the post-mortem showed that the base of the bladder was nearly separated from the surrounding tissues by extensive necrosis of the adipose and connective tissue interposed between them. It has occurred to me that this source of danger might be successfully avoided by performing the operation in two stages, and I have resorted to this modification in a number of instances, with most gratifying results.

The modification of the operation that I propose is based on the familiar surgical fact that granulating surfaces furnish an almost absolute protection against infection. The first operation is performed under the influence of an anesthetic. The rectum and bladder are distended in the usual manner. The field of operation is rendered aseptic, and the bladder is exposed freely, by dissecting away the prevesical fat over an oval surface about two inches in length and half as wide. After arresting the hemorrhage the wound is firmly packed with iodoform-gauze. The external dressing should be securely fastened by strips of adhesive plaster, which are made to encircle the pelvis and which prevent the dressing from becoming displaced. At the end of five days the dressing and iodoform-gauze are removed, and the bladder is distended and incised without the use of an anesthetic, if it is intended to simply establish a supra-pubic fistula, or if a small stone is to be removed. More serious intra-vesical operations would require the use of an anesthetic. If the wound has remained aseptic it will now be found covered throughout by a layer of active granulations. These granulations have closed the connective-tissue channels, and have shut out from the wound the balance of the prevesical space. If no anesthetic is used the surface of the wound is brushed over with a 5 per cent. solution of cocaine five minutes before the operation. The bladder and rectum are distended in order to render the anterior wall of the bladder more accessible. The bladder is in-

¹ Annales de la Soc. de Médecine, Ghent, 1892.

cised and drained in the usual manner. The septic urine is harmless to the granulations, and thus the dangers of the operation are minimized.

It must be admitted that in patients greatly debilitated by the disease that rendered the operation necessary, the immediate risk of the operation is greatly diminished by performing it in two stages. Another great advantage accruing from this modification of the operation is that at the time the second step is carried out the wound is already in a favorable condition for definite healing. For the purpose of illustrating the value of this modification of performing supra-pubic cystotomy in affections of the bladder complicated by septic cystitis, I will briefly report two cases that have recently come under my observation.

CASE I.—A. L., an obese man, aged sixty-eight years, had been suffering for two years with symptoms indicative of the presence of stone in the bladder. Frequent micturition, severe pain after each act, and occasionally slight hematuria, were the most prominent symptoms during the first year. About a year ago cystitis set in, with gradual and progressive aggravation of symptoms. The quantity of pus and mucus in the urine increased, and the patient's general health became greatly impaired. At the time of his admission into the Presbyterian Hospital he was extremely anemic, with rapid and feeble pulse and impaired appetite. The quantity of urine secreted during twenty-four hours varied from thirty to forty ounces; the specific gravity was 1012; the secretion was ammoniacal, and contained large quantities of pus, mucus, and bladder and renal epithelia. The filtered urine was found to contain a considerable amount of albumin. It was evident that the morbid process had extended to the pelves of the kidneys by an ascending inflammation. The prostate was enlarged, and a stone in the bladder was readily detected by the introduction of Thompson's sound.

The patient was suffering excruciating pain, and begged to be relieved by an operation as soon as possible. Salol was given in five-grain doses four times a day, and the bladder was washed out twice a day with a solution of boric acid. A concentrated liquid diet and daily warm baths constituted the remainder of the preparatory treatment. At the end of a week of such treatment, the first part of the operation was performed. Chloroform was used as an anesthetic. After washing out the bladder, ten ounces of boric acid solution were injected, and the same quantity of fluid was used to distend Trendelenburg's rectal bag. The supra-pubic region was thoroughly disinfected, and the bladder exposed in the usual manner. The prevesical fat was dissected away over an oblong vertical space two inches in length and an inch in width at the middle. No ligatures were required. The wound was packed with iodoform-gauze in such a manner that the margins of the external wound were separated at least an inch and a half or two inches. The external dressing was retained in place by strips of adhesive plaster which

encircled the pelvis. The bladder was evacuated, and the rectal pouch removed.

The symptoms were not aggravated by the operation, and the patient recovered promptly from the immediate effects. Five days later the dressing and tampon were removed, and the whole wound was found covered by a layer of active granulations. The anterior wall of the bladder presented the same appearance as the remainder of the wound. The wound was freely brushed with a 5 per cent. solution of cocaine. The bladder and rectum were distended as before, and the granulating part of the anterior wall of the bladder was brought within easy reach. Little, if any, pain was experienced by the patient when the bladder was incised. A large phosphatic calculus was found above and behind the prostate. The stone was removed in pieces, as it broke into numerous fragments when it was grasped with the forceps. The interior of the bladder was sacculated, and presented the typical appearances of long-standing cystitis. A large drain was introduced into the bladder, and the space between it and the granulating wound was packed loosely with iodoform-gauze. The whole operation was performed with the greatest facility, and was not productive of much pain. Although the patient died about a week later of uremia, the wound remained in a satisfactory condition. The granulations retained their vigor, in spite of being continually irrigated by the ammoniacal septic urine.

CASE II.—The second patient was a young man, twenty-five years of age, born in the South, where he had always lived until recently. He had been operated upon for stone in the bladder in October, 1891. It appears that the rectum was wounded at the time, as a urethro-rectal and a urethro-perineal fistula remained. Evidently, recurrence of stone in the bladder took place within a few months after the operation. For nearly a year he had suffered from intense vesical distress. He was admitted into St. Joseph's Hospital, March 15, 1893. His general health was not much impaired. Urination took place on an average every half-hour. The urine was ammoniacal and heavily loaded with pus and mucus. The perineal fistula communicated with the opening in the rectum and urethra. The stone was detected as soon as the steel sound entered the bladder. Rectal examination revealed a hard mass just above the prostate, which was evidently a large stone in a sacculated part of the bladder. The vesico-rectal septum at this point was exceedingly thin. It was found impossible to pass the sound over and beyond the stone.

The conditions in this case precluded any other operation but supra-pubic cystotomy. The patient was carefully prepared, but owing to the existence of the fistulous opening near the neck of the bladder, it was found impossible to distend the organ in advance of the operation. When the perineal opening was closed with clamp-forceps, the fluid escaped into the rectum. I had, therefore, to cut down upon an empty, contracted bladder. The rectum was distended in the usual manner. The space between the peritoneum and the pubes was limited, rendering the

approach to the bladder difficult. The bladder was contracted, and its walls much thickened. A large, soft phosphatic stone was found in the *bas fond* of the bladder, which had become sacculated, and held the stone firmly in place. The greater part of the stone was removed in fragments with a lithotomy spoon. The mucous membrane at the base of the bladder was incrustated with phosphatic deposits. After thoroughly cleansing the bladder by irrigation, a large drain was introduced into the deepest part of the bladder, and the space between it and the wound was packed with iodoform-gauze. The patient rallied well from the immediate effects of the operation, but in spite of the most careful precautions, extensive sloughing of the margins of the wound and the prevesical tissues occurred, which, for a few days, imperilled his life. After the elimination of the necrotic tissue, healthy granulations made their appearance, and from that time the case progressed favorably.

These two cases speak for themselves. In both instances the stone in the bladder had become the indirect cause of septic cystitis. In the first case the patient was old, extremely anemic, marantic, and was, at the same time, suffering from a fatal renal complication, and yet the wound did not become a source of danger, because the incision in the bladder and the extraction of the stone were postponed until the external wound had become protected by a wall of granulation-tissue. In the second case, the patient was a young, robust man, and yet in spite of the most painstaking precautions, the fresh wound became infected by the septic urine, with extensive sloughing, constituting an imminent source of danger to life.

A study of these cases and the remarks that I have made lead me to formulate the following conclusions for further deliberation:

1. Necrosis and phlegmonous inflammation of the margins of the wound and the tissues in the prevesical space (cavum Retzii) not infrequently occur as complications of supra-pubic cystotomy, if the operation is performed for affections complicated by septic cystitis.

2. Supra-pubic cystotomy in two stages greatly diminishes, if it does not entirely overcome, this source of danger.

3. In the first operation, the bladder is freely exposed in the usual manner, when the prevesical fat is dissected away over a vertical oval space at a point corresponding to the location of the proposed visceral incision, after which the wound is packed with iodoform-gauze, and the external dressing is applied in such a manner that it cannot become displaced.

4. The incision in the bladder and the intra-vesical operation are postponed until the external wound has become covered with a layer of active granulations, which usually requires from four to six days.

5. The second operation can be performed with the aid of cocaine, without general anesthesia.

6. This modification of supra-pubic cystotomy diminishes the immediate risks of the operation, and affords protection against a number of serious *post operationem* complications.

STOMACH-WASHING IN INFANTS.¹

BY HENRY E. TULEY, A.B., M.D.,
OF LOUISVILLE, KY.

SINCE the recommendation by Epstein,² of Prague, in 1880, of irrigation of the stomach for the treatment of the gastro-intestinal diseases of infancy and childhood, this procedure has been gradually more and more extensively used. It was not, however, until his second report in 1889, at Wiesbaden, before the meeting of the Association of Naturalists and Physicians, that the real value of the measure became recognized. To Dr. A. Seibert,³ of New York, is due its introduction into this country, who, at a meeting of the Section of Pediatrics of the New York Academy of Medicine, in November, 1888, presented the first report on the subject, comprising a series of cases of acute dyspepsia, and of acute and chronic enteric catarrh, with vomiting, in infants between seven weeks and one and one-half years of age, which were successfully treated by lavage, with and without medication.

Though extensively used for the past four years in New York, comparatively little is known of the measure elsewhere in this country. The object of this paper is to call attention to this valuable therapeutic procedure, to describe the necessary apparatus and its application, and to briefly state the indications for its use, with the report of a few cases.

The apparatus used in stomach-washing consists of a not too flexible soft-rubber catheter, No. 13, American scale, about twelve inches in length. This is attached to a bit of glass tubing, two or three inches long, through which the contents of the tube can be observed in their passage. The glass tube is attached to another rubber tube, and this finally to a glass or hard-rubber funnel, with a capacity of from one to three fluidounces.

Plain lukewarm water, previously boiled, is the only fluid that should be used. Generally not more than one pint is required to wash out the stomach thoroughly.

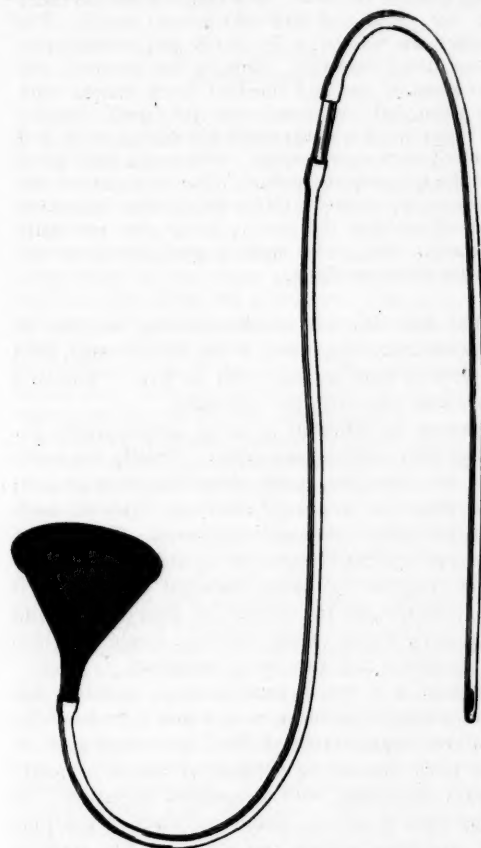
The child is seated upright in the nurse's lap, its arms being secured under a rubber sheet, with its head resting on the right arm of the nurse, and inclined slightly forward. The child's tongue is depressed with the left forefinger, and the tube is passed back-

¹ Read before the Kentucky State Medical Society, May 10, 1893.

² Prager medicin. Wochenschr., 1880. No. 45.

³ Archives of Pediatrics, December, 1888.

ward into the pharynx, advantage being taken of the child's gagging (which will occur from titillation of the pharynx) to pass the tube rapidly into the stomach. In most cases no oil or vaselin is needed; the tube should simply be wet before its introduction.



There is often some gas in the stomach, and if water is poured in the funnel immediately upon the descent of the tube, the fluid may be prevented from flowing into the stomach by the presence of gas in the tube, and not by an obstruction at the eye of the catheter, as one might imagine. A glance at the glass tubing will suffice to show whether the tube is filled or not. This difficulty is obviated by elevating the funnel as high as possible, perhaps for half a minute, to allow the gas to escape. After the stomach has been filled, the funnel is depressed below the level of the viscus, to allow its fluid contents to siphon out, after which one or two funnelsfuls of water are again allowed to flow in, to be immediately siphoned out, as before.

There may be lumps of curds which at first are too large to pass through the catheter. These can often be broken up, and dissolved, by again and

again passing water in and out until the particles pass readily through the tube; or, if this cannot be accomplished, the child may be made to vomit by the side of the tube by over-distending the stomach with water. In this way masses of leathery curds and thick, tenacious mucus may oftentimes be brought up, which would otherwise have required repeated washings to disintegrate, if, indeed, that could have been accomplished at all.

The stomach of a healthy nursing infant, for the first few months of life, is generally empty two hours after feeding; that of an artificially-fed infant requires, perhaps, a little longer, say two and one-half hours; but in cases of indigestion curds are sometimes washed out four or five, and even eight, hours after feeding, the period of stomach-digestion varying with the character of the milk, the age, and the health of the patient.

Should there be present considerable prostration and urgent thirst, as is often the case in acute processes, one or two ounces of water left in the stomach will afford relief, and the water will frequently not be vomited, as it might be if given by mouth, as has been shown in a series of cases of obstinate vomiting treated by gavage in the New York Infant Asylum during 1892.¹

The diet after stomach-washing and its method of administration are very important. *No food* should be given at all for at least two hours after the washing, and then only the blandest and most easily digested.

If the child is artificially fed, it should be placed on malted milk for twenty-four or thirty-six hours after the irrigation, not more than half an ounce being given at the first feeding. If a nursing infant, and breast-milk is vomited after the stomach is washed, malted milk may be tried for twenty-four hours, in small amounts, and the breast-milk then resumed.

After washing out the stomach, Epstein puts children on albumen-water (made by dissolving in two pints of water the whites of two eggs, first beaten up in water, then filtered) for twenty-four or thirty-six hours, and then allows them gradually to return to the breast.

In the past two years, in the New York Infant Asylum, where the data on which this paper is based were obtained, there have been fully 1500 stomachs washed, and in no case has any evil resulted, or any contra-indication been noted. The procedure is easily carried out, though it may seem like an operation of magnitude to those unfamiliar with its technique.

The following is a *résumé* of the history of forty-five cases of stomach-washing during the mid-summer

¹ Kerley: Archives of Pediatrics, February, 1892.

months of 1891, records of which were carefully kept. The average age was ten and one-half months. Ten were fatal cases of enterocolitis, with high temperature, prostration, etc., and vomiting. Stomach-washing effectually controlled the vomiting in five cases. Of the remaining five cases, in one the autopsy showed extensive ulceration of the stomach at the pyloric extremity; one had suffered from chronic vomiting from birth; and in three both gavage and stomach-washing failed to control the vomiting. In thirty-two cases there was acute dyspepsia. In twelve of this number there were intestinal symptoms; in six of these the temperature was above 100°. In all cases but one, from two to three washings were found necessary to control the vomiting. In the remaining twenty cases, in which the temperature was 100° or below, with the exception of two cases (requiring two washings), only one irrigation was necessary.

Three were cases of chronic vomiting from birth, which was controlled by from one to three washings. In all of the foregoing cases the same precautions as to diet, as already related, were carefully carried out. The following are illustrative cases:

CASE I.—Louisa F., a well-nourished child, fifteen months old, had been fed on Mellin's food, and was gaining in weight. On the afternoon of July 6th she was given bread and Mellin's food, which had been standing uncovered in the hot ward. She soon after vomited quantities of curds, and during the remainder of the afternoon had six thin and yellow movements. At eight o'clock there was quite marked prostration, the face being drawn and anxious, and quite cyanotic, and the temperature being 103°. Nothing could be retained, food causing gagging and retching. The stomach was washed shortly afterward and two ounces of warm water left in the viscus; this was not vomited. Quantities of fine curds were removed by the washing. After a two hours' rest, the child was fed during the remainder of the night on malted milk at intervals of two hours, only one ounce being given at a feeding. There was but one stool during the night and no recurrence of the vomiting. From this time the child went on to perfect recovery.

CASE II.—Joseph L., a robust, breast-fed baby, aged eleven months, had gained rapidly in weight. On July 23d his mother was away from the Asylum on leave all of the day, the child, in her absence, being fed on partially peptonized milk. At 11.30 P.M. the mother returned, and the child greedily emptied in a short while both breasts, which were filled with milk. During the remainder of the night it vomited, five times, curds and sour milk, and had three thin and yellow stools. At nine the next morning the temperature was 100°. Lavage was practised and quantities of sour-smelling curds removed. Two hours later, at its first feeding, one ounce of malted milk was given. During the afternoon the child was nursed as usual, with no recur-

rence of the vomiting. There were no subsequent symptoms, and the child made a good recovery.

CASE III.—Lulie J., a poorly nourished breast-fed child, seven weeks old, on the evening of July 20th was reported as having vomited part or all of every nursing during the day, the ejected material being curdled and sour. The temperature was 100°, and the child had had two normal stools. The stomach was washed, a few curds and considerable mucus being removed. Nursing was stopped, and after a rest of one and one-half hours malted milk was given and continued until July 22d. During the night of the 22d the child was nursed twice, and vomited after each nursing. The stools were good and the temperature normal. The little patient was again put on malted milk for twenty-four hours after stomach-washing, the nursing being then gradually resumed. The child made a good recovery and had no more vomiting.

The best results in stomach-washing are seen in cases of acute dyspepsia, in the initial stage, with or without diarrhea and with no fever. Rarely is more than one irrigation necessary.

Lavage is indicated in acute gastro-enteric catarrhs, with vomiting and fever. Usually two washings are necessary, rarely more than three or four. The irrigation improves the tone of the stomach and diminishes the number of stools. It is a valuable and effectual means of combating a troublesome symptom in gastro-intestinal diseases, as it mechanically rids the stomach of accumulated milk and curds, which, unless removed, would pass into the intestines and give rise to irritation.

Lavage is of use in cases in which vomiting has been present from birth, or in which there has been continual regurgitation of food, as it removes curds and thick mucus, the presence of which is nearly always associated with disordered digestion. In some cases it may be found necessary to continue the lavage for perhaps two weeks, at first washing once each day, then every other day, and so on as required; but in the majority of cases vomiting is relieved in from one to three washings repeated on successive days. Stomach-washing is by no means a panacea in controlling this oftentimes troublesome symptom, nor does it preclude other treatment. It is far better than emetics (the disadvantage of which has long been recognized in the treatment of indigestion in infants) and, if properly practised, is a simple, effective, and thorough mechanical procedure, and, as far as I have seen in a rather extensive experience with it, is entirely without danger.

In private practice some objections are raised to its use, as to all new measures; but these, I am sure, will not be offered when once the great benefits derived from its application are seen.

CLINICAL MEMORANDA.

SARCOMA OF THE RIGHT LUNG DIAGNOSTICATED DURING LIFE BY THE USE OF THE MICROSCOPE; SECONDARY TO SARCOMA OF THE TESTICLE WHICH HAD BEEN REMOVED FOUR YEARS PREVIOUSLY.¹

BY D. W. PRENTISS, M.D.,
OF WASHINGTON, D. C.

W. H. H. was fifty-one years old. His parents had been healthy. His father was killed in a saw-mill. His mother died of pneumonia, aged sixty-three years. There was no history of malignant disease or of tuberculosis in the family. The man's health had been failing for five years.

When a child he injured his testicle, and again later when riding; but this never troubled him. Five years before his last illness the testicle was again hurt, when it became inflamed and the man was confined to bed for some time, suffering great pain. After this he had to exercise great care of the organ. The testicle was removed four years previously to death by Dr. J. Ford Thompson, who pronounced it sarcomatous.

Pulmonary symptoms appeared in August, 1890. The man had had a very profuse hemorrhage from the bowels in January, 1890. He complained of great pain in the right side over the liver. There was slight cough and bloody sputa, though no large hemorrhage from the lungs had occurred. The sputa were frothy, stained with blood, and occasionally mixed with a fibrinous substance.

I first saw the patient March 29, 1891. He had been under the care of a sectarian practitioner, and had been treated for pulmonary tuberculosis for about nine months.

When I saw him he was greatly emaciated; suffering with pain in the right side of the chest; and coughing and expectorating bloody sputa. At first sight he presented all the appearances of tuberculosis. Physical examination, however, showed a condition evidently not due to pulmonary tuberculosis. The left lung appeared normal on auscultation and percussion. The right lung was solid throughout nearly its entire extent. Air could only be heard to enter the lung in two small areas, one near the apex and another low down in front in the lower lobe. At these points at the autopsy were found respectively a little normal lung-tissue and a small cavity resulting from the breaking down of the diseased tissue.

The sputum was sent to Dr. Theobald Smith for examination for tubercle-bacilli, but none were found.

The principal symptoms in the case were the cough and expectoration, great pain in the side from the pleuritic extension of the disease, extreme emaciation and exhaustion. Decubitus was mostly left-sided. As the case progressed bedsores developed over the hips and sacrum, which added greatly to the patient's suffering.

Treatment was symptomatic—excepting that at the first the man was put on a mixed specific treatment of potassium iodid and mercuric chlorid. There was no clinical evidence of specific disease, but upon a sus-

picion that there might possibly be a syphilitic taint this treatment was tried. It was continued for about three weeks without effect. Other treatment consisted of morphine (to relieve pain), stimulants, and tonics.

The right side of the chest was enlarged and the intercostal spaces obliterated.

Dr. J. Ford Thompson was called in consultation and the side aspirated, to determine if there was liquid in the pleural cavity. None was found, but instead, only blood and a quantity of substance looking like partially organized fibrin was drawn out, evidently from the lung-substance.

This substance was sent to Dr. Theobald Smith for microscopic examination, and reported by him to be composed of masses of sarcoma cells.

Up to this time malignant disease of the lung had not been thought of, but the diagnosis now became clear, especially when inquiry brought out the fact that a sarcomatous testicle had been removed four years before. The patient died of exhaustion, August 21, 1891, one year after the first symptoms of lung-disease developed.

The autopsy was made four and a half hours after death by Dr. Robert E. Edes.

Emaciation was most extreme.

The whole right lung was sarcomatous. There was a pus-cavity at the lower border containing about two ounces of pus. Nearly the whole lung was bound to the chest-wall and to the diaphragm by strong adhesions. The fourth, fifth, sixth, and seventh ribs were eroded posteriorly by pressure. The upper part of the right lung contained several patches of healthy tissue anteriorly, but the remainder of the lung was replaced by sarcomatous tissue, old, hardened blood-clots, and fibrin. The left lung was healthy, except in the upper part of the lower lobe, which was solidified and grayish in appearance. The right kidney was normal; the left kidney congested, otherwise normal. The spleen was small, but normal. The intestines were normal. There was no enlargement of the lymphatic glands of the abdomen. The liver was normal. The gall-bladder was full of bile. The heart was small and flabby.

The accompanying letter gives the results of the microscopic examination:

DR. D. W. PRENTISS.

MY DEAR DOCTOR: Microscopic examination of sections of the supposed sarcomatous testicle and lung proves the growth to be the same in each organ. The sarcoma is of the variety known as lympho-sarcoma. The sections will not take an intense nuclear staining, which is doubtless due to slight post-mortem degeneration.

Yours truly,

W. M. GRAY,
Microscopist, Army Medical Museum.

I have been influenced to report this case on account of its comparative rarity, especially in private practice, and also as illustrating the value and importance of the microscope in diagnosis.

As to its rarity, this is the only case I have seen in a private practice of thirty years; although hospital statistics show malignant disease of the lungs not to be uncommon.

When only one lung is affected it is more frequently the right, in the proportion of 2 to 1.

¹ Read before the Association of American Physicians, at Washington, D. C., May 31, 1893.

Walshe records 29 cases of primary malignant disease of the lung, in only 18 cases of which one lung was affected, and of these 18 the right 13 times and the left 5 times. Kohler reports 31 cases, one lung being affected in only 23; the right 15 times; the left 8 times. The condition is more common in men than in women. Hasse reports 22 cases; 17 in men, 5 in women. (*Ziemsens's Cyclopaedia*, vol. v, p. 436.)

Osler, however, states that malignant disease of the lung is more common in women.

Malignant disease of the lung is principally to be differentiated from tuberculosis. The possibility of syphilis should not be overlooked.

DIFFERENTIATION FROM TUBERCULOSIS.

TUBERCULOSIS.	MALIGNANT DISEASE.
Begins usually at apex of left lung, and extends to right lung.	Begins usually in middle lobe of right lung.
Sputa muco-purulent, nummular.	Sputa gelatiniform, mixed with pus and blood, "prune-juice."
Cavities.	Intense dullness over whole lung.
	Swelling of lymphatic glands more marked.
Tuberculous diathesis.	Previous history of malignant disease, as in breasts or testicles.
Tubercle-bacilli.	Sarcomatous or carcinomatous cells.

The only other condition that produces the same extent of intense dullness in the lung is a large collection of fluid in the pleural cavity. This is recognized, of course, by aspiration.

As to syphilis of the lung, its extreme rarity alone is almost enough to set it aside.

Tuberculosis of the lung in a syphilitic subject is common enough—in fact, a distinguished syphilographer (Dr. Taylor, of New York) stated recently that the two diseases go hand-in-hand; that syphilis precipitates pulmonary tuberculosis in a predisposed patient. But syphilis of the lung, as a distinct form of disease, does, however, exist, many cases having been reported, and the early symptoms are much like those of malignant disease of the lungs. The diagnosis may be determined by the therapeutic test.

Finally, it is worth noticing that a man could live, as this one did for months, with such an extent of disease within the chest-walls.

DIRECT AND OBLIQUE INGUINAL HERNIA ON THE SAME SIDE.

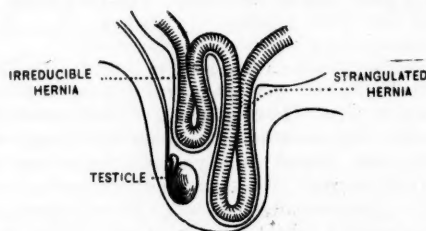
BY R. W. STEWART, M.D., M.R.C.S.,
SURGEON TO MERCY HOSPITAL, PITTSBURG, PA.

J. M., thirty-five years old, was admitted to Mercy Hospital, October 23, 1892, suffering from a large scrotal hernia on the left side, which had been strangulated for three days. The patient gave a history of having been ruptured five years ago, and of wearing a truss since that time, until the present hernia descended into the scrotum and became strangulated. The characteristic symptoms of strangulation were present. The material vomited had a fecal odor, the pulse was rapid, and the general appearance of the patient indicated the near

approach of collapse, and the urgency of immediate operative interference.

The patient was at once prepared for operation, in which I was assisted by my colleague, Dr. Buchanan, and the house-surgeon, Dr. Stelwagon. The man being anesthetized, and the pubes and scrotum shaved and rendered aseptic, the hernial sac was opened by a longitudinal incision extending from the external ring downward for a distance of five inches, and exposing the hernial contents, consisting of a coil of small intestine, about nine inches in length, which was quite black, but not gangrenous. The constriction, which was at the external ring, being divided, the gut was drawn downward, in order to examine the points of constriction and to assure ourselves of the vitality of the intestine before it was replaced within the abdomen.

At this time it was noticed that there was a peculiar bulging forward of the posterior wall of the sac, caused by a mass the nature of which it was difficult to determine. In order to perform the radical operation for hernia the sac was dissected up to the internal ring, exposing at the bottom of the wound the mass already



Diagrammatic representation of the relative position of the hernias to each other.

referred to. The weight of evidence was in favor of this mass being an old irreducible hernia, and a point was selected where, if it was a hernia, it was thought the sac would not be adherent to its contents. This was carefully incised, exposing within a coil of intestine, the walls of which were so thickened and its surface so altered by firm adhesions to the sac as to be almost unrecognizable. With considerable difficulty the adhesions were broken down. The finger could then be passed with facility between the gut and its sac, and the continuity of the latter with the parietal peritoneum demonstrated. When the gut was liberated from adhesion to its sac it became distended with gas. It was then replaced within the abdominal cavity.

The sacs of both herniæ were tied as high up as possible and cut off, and the common pedicle of both sacs was sutured to the pillars of the ring and the wound closed in the ordinary manner.

The subsequent course of the case was marked only by the development of an orchitis and sloughing of some of the connective-tissue bands that were torn in dissecting up the two hernial sacs.

The chief point of interest in this case is the presence on the same side of two inguinal herniæ, one of which was strangulated and the other not. The explanation given by Dr. Buchanan at the time of the operation seems the most rational one. He thought that the hernia that had been formed five years ago was a direct

inguinal one, that it had never been reduced, though during this period the patient had constantly worn a truss. The gut in the meantime had, however, become firmly adherent to the sac. The strangulated hernia was probably of recent origin, and had descended obliquely through the inguinal canal.

WESTINGHOUSE BUILDING.

POISONING BY OIL OF CEDAR.

By F. K. BROWN, M.D.,
OF PHILADELPHIA.

MRS. P., twenty-three years old, married, having one child and being pregnant three months, took half an ounce of oil of cedar at 10 o'clock P.M. In an hour she was seized with vertigo and a sensation of pins and needles all over the body, immediately followed by a convulsion lasting three minutes and attended with loss of consciousness, rigidity of the body, frothing at the mouth, stertorous breathing, and bilious vomiting.

Ten minutes after the first convulsion there followed another, lasting about ten minutes and attended with the same symptoms as the first, except that the vomited matter was thin and watery at first, afterward resembling coffee-grounds, and finally becoming almost black. There was no diarrhea and no micturition.

When I saw the woman, two hours after she had taken the oil of cedar, she was apparently unconscious, but by vigorous shaking could be aroused. Her face was pale, her expression anxious, and she was somewhat delirious and much afraid that she would die. The skin was cold and clammy; the pulse was rapid and weak, scarcely perceptible at radial artery; the first sound of the heart could be but feebly heard.

Respiration was rapid. There was still a little vomiting of coffee-ground material, and complaint of severe bearing-down pain as though her pelvic organs would be expressed. I at once administered hypodermatically strychnine sulph., grs. $\frac{1}{32}$, and prescribed: R. Bismuthi subnitrat, gr. xx; strychnine sulphatis, gr. $\frac{1}{32}$; morphine sulphatis, gr. $\frac{1}{4}$; M. S. Every hour. I also ordered spiritus frumenti, \mathfrak{z} ij, every twenty minutes, and hot blankets and hot bottles to be applied to the extremities.

In an hour the patient was much improved. There had been no vomiting for half an hour. The pain was much less and the heart-sounds were much clearer, with a pulse of 90. The respirations were twenty-two per minute. The skin was warm and moist. The prescription of bismuth, strychnine, and morphine was continued every three hours. The whiskey was discontinued. Ten hours later I found the woman out of bed. She maintained that she felt as well as usual. There had been no more vomiting and there was no pain, but she stated that a dark-colored discharge took place from the vagina, which continued until the end of pregnancy. There was suppression of urine for thirty-six hours. The patient did not miscarry, but went to full term, and was delivered of a full-sized but not healthy-looking child.

Arnold Paltauf, Professor of Medical Jurisprudence in the German University of Prague, died May 27th, of malignant disease of the naso-pharynx, at the age of thirty-two years.

PRECOCIOUS PREGNANCY.

By J. ROBERT BUCHANAN, M.D.,
OF NEVADA, MO.

THE following case is remarkable solely on account of the unusual youth of the subject at the time of parturition.

Mrs. Maggie P., white, of Pike County, Mo., was born September 29, 1864. She was married October 25, 1877, being at the time thirteen years, twenty-six days old. She was delivered on May 30, 1879, at full term, after a normal but somewhat protracted labor, of a healthy, well-developed male child, weighing nine pounds, being then fourteen years, eight months, and one day old. She was a remarkably well-developed young woman, weighing about one hundred and thirty-five pounds. She began menstruating at the age of twelve years. At the time I congratulated myself upon having delivered the youngest woman in my State; nor have I yet met with a physician who has delivered a younger.

MEDICAL PROGRESS.

Periods of Incubation and Infectivity.—A supplement to vol. xxv of the *Transactions of the Clinical Society of London* contains a "Report on Periods of Incubation and Contagiousness in Certain Infectious Diseases" (*British Medical Journal*, No. 1688, p. 958):

Diphtheria.—Eighty-seven cases were considered. In 27, the exposure to infection was for a short period, on a single occasion; in all, with a single exception, in which the facts were doubtful, the period of incubation was seven days or less. In 63 cases the period was four days or less. If to these are added certain other cases, in which the dates at which exposure commenced are positively known, and the sets of cases are taken together, it appears that in 30, or 58 per cent., the period of incubation cannot have been more than four days, while in 45, or 87 per cent., it cannot have been more than seven days. In the large majority of cases infection was attributed to personal intercourse with a sufferer or convalescent. A person may be infected by a patient suffering with diphtheria (a) in the incubative stage, (b) during the developed attack, (c) for a brief period of long, but uncertain and probably varying duration after apparent recovery. In cases of late infection some unhealthy condition of the throat will, as a rule, be found to have persisted, or possibly to have recurred. The evidence further showed that the infective principle of diphtheria can be retained by clothes, carpets, and other fomites for months, perhaps years. It appeared also that infection may take place from cases that seem so mild that the patient never comes under medical treatment, or presents symptoms so little characteristic that their true nature is not recognized even after medical examination.

Enteric Fever.—Seventy cases were considered. In 14 the infection was traceable to a single short exposure to the liability of infection; in 15 other cases the period of incubation must have been less than fourteen days. The conclusion was reached that the interval between

exposure and the development of distinct symptoms is probably most often from twelve to fourteen days; not infrequently it is nine or ten days, occasionally eight, and possibly even less. In rare cases, it is prolonged to fifteen, eighteen, or even to twenty-three days. A case of enteric fever remains infective throughout the whole course of the disease, from the date of the earliest symptoms of the illness until convalescence has been established for at least a fortnight. Evidence is afforded that infection can be conveyed by fomites, and be retained in them probably for at least two months.

Influenza.—The conclusions reached are: (1) that the period of incubation varies from a day, or possibly a few hours less, to four or five days, but the usual period is four or five days; (2) that a patient is capable of conveying infection throughout the whole course of the disease, from the onset of the earliest symptoms, and even after convalescence has been established sufficiently to enable him to resume ordinary occupations a week or ten days at least after the commencement of his illness.

Morbilli.—In 36 cases the exposure to the source of infection was for a short known period, only a few minutes or hours. In 19, or 52 per cent., of these the subsequent interval before the appearance of the rash was exactly fourteen days. In 28, or 78 per cent., the period was thirteen, fourteen, or fifteen days. In three cases only, did the period exceed fifteen days. The evidence afforded by cases in which the period of exposure was not precisely limited confirmed the conclusion that fourteen days is the usual period between the exposure and the occurrence of the rash. Intervals of sixteen, seventeen, and eighteen days probably occur occasionally. In rare cases the interval may be as short as seven days. The duration of the primary, or catarrhal stage, is not constant, and bears no relation to the total duration of the interval between exposure and eruption. It is concluded that the true period of incubation of measles, that is, the interval between exposure and the earliest symptoms, is, in a majority of cases, nine or ten days, but it may be as short as five or even four days, and as long as fourteen. Cases are quoted to show that measles is infectious, not only during the primary stage and throughout the acute attack, but also in some cases after convalescence has been well established, but no period beyond three weeks after the appearance of the rash was met with in which disinfection had been practised. There was evidence that the infection may be retained by fomites for a short time.

Parotiditis.—In 14 cases of single short exposure, the period of incubation was three weeks; a day or two more or a day or two less, in 10. It is occasionally as long as twenty-five days, and more rarely, as short as fourteen days. The likelihood of infection diminishes progressively from the onset of the attack, and will have ceased in two weeks probably, and in three weeks almost certainly. The disease is most highly infectious during the prodromal stage, which is of uncertain duration, and may last as long as four days.

Rubeola (Rötheln).—The conclusion is reached that the period of incubation is, as a rule, to which there are many exceptions, more than two and less than three weeks, and that eighteen days is probably the usual

period. In a considerable number of cases it is a day or two less than two weeks; in a few it is only eight or nine days; and it is possible that in a small number it may be as short as six or five days. The patient is infective two or three days before the rash appears, and also while the rash is out, but thereafter infectivity diminishes rapidly, and ceases altogether in a week in mild cases, and by the time desquamation is over in the more severe cases. There is little evidence that the infection is long retained by the clothes.

Scarlatina.—One hundred and forty cases were considered. In 34 the exposure to infection was for a short period, measured by minutes, or at most, hours; and in 12 of these the period of incubation cannot have exceeded forty-eight hours. In 19 of these cases (more than half) the period was less than three days, and in no case was the appearance of the eruption delayed beyond the eighth day. It is concluded that the period of incubation is some time between twenty-four and seventy-two hours; it is occasionally less than twenty-four hours, and frequently more than seventy-two hours. Periods of four, five, and six days are often met with, and of seven days occasionally, but it is doubtful if the period is ever extended to eight days. When the infection is conveyed by milk the period seems, as a rule, to be short—two days or less. Infection persists from the onset of symptoms until long after convalescence has been established certainly as long as there is any desquamation; it may still be active eight weeks after the onset of the disease; it is readily preserved and conveyed by fomites.

Surgical and Puerperal Scarlatina.—There is no proof that the period of incubation is longer or shorter in persons that have been injured, or in women recently delivered; but there are grounds for believing that the occurrence of labor or of traumatism may determine the onset of scarlatina in persons that had previously been exposed to infection without taking the disease. The infection of scarlatina may be conveyed by persons that do not themselves suffer—doubtless in their clothes. The symptoms of scarlatina may be very anomalous, or little marked, and, especially in the adult, may consist only of sore-throat; the infection of the disease is particularly likely to be distributed by such cases.

Variola.—The period of incubation is commonly twelve days (from exposure to initial symptoms), but it is not infrequently a day more or a day less. It is only occasionally nine or ten days, and sometimes fourteen or, perhaps, fifteen days. Smallpox is infectious from the onset of the initial symptoms, and until all scabs are cleared off, but it is much more infectious during the height of the active stage of the disease than during the initial illness. The infective principle can be retained and conveyed by fomites, and by the hair of a person that has been in intimate relations with a patient suffering from smallpox.

Varicella.—The period of incubation of varicella appears to be a little longer than that of variola. It is usually fourteen days, but may be a day less or four or five days more. The infection may be derived from a patient at least as soon as the rash appears. A convalescent patient may convey the infection to others. The infection may probably be conveyed in clothes.

THE MEDICAL NEWS.

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SATURDAY, JULY 1, 1893.

THE DIAGNOSIS OF CHOLERA.

THE study of the large amount of material afforded by the last epidemic of cholera has cleared up many obscure points concerning the disease. The researches in the field of bacteriology have taken the foremost place, and the methods of investigation have been so vastly improved that, in skilled hands, it is now possible in a doubtful case to make a certain diagnosis of cholera within twenty-four hours.

Perhaps one of the most striking results is to be found in the conclusions that have been arrived at with regard to the possibility of the existence of choleraic infection without clinical symptoms. From what was known of epidemic diseases in general, it had been surmised that during the prevalence of the disease probably very mild cases of cholera occurred frequently and were overlooked, but it remained for bacteriology to demonstrate that such profound differences in the intensity of the infection as were seen in the last epidemic could occur. The fact that in more than one instance virulent cholera-bacilli have been found in the solid feces of apparently healthy men, far from throwing any doubt whatever upon the comma-bacillus as the causative agent in cholera, rather indeed helps to establish its relation to the disease, as these mildest cases of

choleraic infection never occur outside of groups of individuals who have been equally exposed, and among whom severe cases of the disease exist; on the other hand, its significance from the point of view of prophylaxis can hardly be overestimated.

ROBERT KOCH,¹ to whom will be generally conceded the best right to speak on this subject, insists upon these points, together with others, and details minutely the methods pursued at the Institute for Infectious Diseases under his care at Berlin in the bacteriologic diagnosis of cholera. It has been found that the original gelatin-plate method is defective (1) because the time required for the making of a certain diagnosis was at least two days, and (2) in that when only a few cholera-bacteria were present they could easily be overgrown by other bacteria and escape observation. The ideal method must, therefore, enable us to make a sure diagnosis in a very short space of time.

KOCH maintains (*first*) that in 50 per cent. of the instances it is possible, simply from microscopic examination of cover-slip preparations, to reach a definite conclusion within a few minutes after the reception of the suspected material. The cholera-bacteria are often present in the small mucus flakes almost in pure culture, and are then seen in characteristic groups, the single bacilli pointing in the same direction presenting an appearance compared by KOCH to a school of fish in a slowly running stream. In the absence of these clumps, if curved bacilli resembling cholera-bacteria are found associated with no forms except those that resemble the bacilli coli, the diagnosis is still tolerably sure. Nevertheless, in every doubtful case, or to confirm the diagnosis made by microscopic examination, some of the material is (*secondly*) planted in a sterilized 1 per cent. watery solution of sodium chlorid and peptone rendered distinctly alkaline by the addition of sodium carbonate. Since the demonstration by HESSE that the cholera-bacteria require large quantities of oxygen for their development, advantage has been taken of this property in order to separate these organisms from others less strictly aerobic. If a tube of the peptone solution be inoculated with feces containing even a few cholera-bacteria, and be kept in the thermostat at a temperature of 37° C. (98.6°), there will be found after from six to twelve

¹ Ueber den augenblicklichen Stand der bakteriologischen Choleradiagnose. Zeitschr. f. Hygiene u. Infektionskrankheiten, 1893, Bd. xiv, Heft. 2, p. 319.

hours at the surface of the liquid an almost, if not a perfectly, pure culture of cholera-bacteria.

The next step (*thirdly*) is the inoculation of a good 10 per cent. gelatin culture-medium, which is poured into plates and kept in the thermostat for from fifteen to twenty hours at a temperature of 22° C. (71.6° F.). If there have been any doubt as to the peptone cultures, gelatin plates are also made from these. *Fourthly*, sterile agar which has been poured into Petri dishes and kept in the thermostat for some days until the fluid which always separates has evaporated, is inoculated and kept for eight hours at a temperature of 37° C. (98.6° F.). *Fifthly*, the cholera-red reaction may be obtained in a culture in peptone solution containing a definite amount of nitrates. The sulphuric acid employed must be free from nitrous acid, and the cultures must be pure. *Sixthly* and finally, injection of pure cultures into the peritoneal cavity will prove fatal to guinea-pigs, in the proportion of 1.5 mgr. ($\frac{1}{48}$ of a grain) of the solid culture on agar (in about 15 minims of bouillon) to 10 or 12 ounces of body-weight.

Curved bacilli other than cholera-bacteria, but morphologically resembling them, occur only with great rarity in the feces of human beings, and, when they do, are easily differentiated by the indol-test and by the animal experiments. In water, however, comma-bacilli are met with very frequently indeed, but can always be distinguished from the genuine cholera-germs by the methods now at our command. In making a study of suspected water 1 per cent. of sodium chlorid and the same amount of peptone are added to 100 c.cm. (about 3 ounces) of the fluid, and the solution placed in a thermostat at a temperature of 37° C. (98.6° F.). At the end of ten, fifteen, or twenty hours agar is inoculated from the peptone culture and poured into plates. The study of the colonies may be then further continued in the manner already outlined.

It will be necessary in future during epidemics, as well as at their beginning and close, to carry on extensive bacteriologic examinations, as it is even more important in cholera than in diphtheria to keep the patients isolated after all symptoms have disappeared until the causative microorganisms are no longer present in the body. We may congratulate ourselves that, in this country, our larger hospitals are more and more associating themselves closely with pathologic and bacteriologic laboratories, and that it is becoming generally recognized that not

only for the carrying out of research-work, but also for the practical application of the means we already possess for the prevention of the spread of disease, it is essential that the work of the skilled clinician shall be supplemented by that of the bacteriologist.

BOOK REVIEWS.

IN his address as President of the American Medical Editors' Association, published as an editorial in the *Journal of the American Medical Association*, DR. J. C. CULBERTSON expresses certain opinions on the subject of book reviews in medical journals, from which we must in a measure dissent. Among other things, he says: "I would suggest that book reviews should be limited to the briefest possible acknowledgment of the receipt of a volume. Medical bookmaking is a manufacturing and commercial business, and as such should continuously patronize the advertising pages of our journals. . . . I have no hesitation in saying that the long laudatory book reviews should cease to appear. They strangled the *London Medico-Chirurgical Review* and badly choked the old *Quarterly American Journal of Medical Sciences*."

Apart from the fact that "medical bookmaking" in the proper sense, however much it has been and is abused, is not merely "a manufacturing and commercial business," DR. CULBERTSON confounds two distinct things—"laudatory" notices (long or short) of the nature of advertisements of medical books, and genuine reviews. The critical examination of books that assume either to represent the present status of knowledge in any department of medicine and its allied sciences, or to contain new facts or new theories that constitute an advance in knowledge, and the impartial and candid expression of the result of that examination, is one of the highest and most responsible functions of the medical journal. Thus only can error be held in check and due acknowledgment of merit rendered. Honest and truthful reviews by competent writers are of the utmost value to publishers, to authors, and to the profession. Acquainting the latter with the scope of a work and the manner in which the task assumed by the author has been performed, they enable judgment to be formed as to the advisability of purchasing it. By pointing out mistakes of judgment as to arrangement or choice of matter, calling attention to errors of inadvertence in writing or proof-reading, or to graver errors of insufficient knowledge, they

enable the author to make subsequent editions better, and help to keep the reader from being misled. By debating statements open to question, they assist in bringing the truth to light.

The knowledge that their books must stand trial at the bar of critical judgment deters careless and incompetent writers from indulging themselves too freely in the luxury of reckless statement, and the approval of the well-informed reviewer is one of the greatest satisfactions that falls to the lot of the careful and competent author. The reviewer must, of course, be guided only by truth and justice—not by personal favor or dislike, and not by commercial considerations or relations with publishers.

It is the unvarying custom of *THE MEDICAL NEWS* to place books submitted to it in the hands of members of the profession of known fitness for the responsible duty of reviewing, with no other suggestion than an intimation of the space available. This space we try to proportion to the importance of the book; but we are often compelled to lament that the exigencies of a newspaper limit our ability to give good books all the space they deserve, or to take the space required to point out the errors of books more pretentious than worthy.

The best reviews that have ever been written were those in *The American Journal of the Medical Sciences*. It has been well said that from them alone, should the books be lost, the history of medical progress could be reconstructed. Many of the best-informed men in the profession regret that the change of the *American Journal* from quarterly to monthly involved some abridgment in the space devoted to reviews in that journal; though we believe that it can still justly claim a high degree of merit for the character and comprehensiveness of the work of its critical department.

For the commercial puffs, long or short, which our esteemed contemporary miscalls reviews, we have only profound contempt. They are on a par with editorial and other reading notices of pharmaceutical and other manufactures. We shall indeed be glad when these disappear, and the honest judgment of competent critics, expressed briefly as may be, takes their place.

EDITORIAL COMMENTS.

A Standing Committee on Cholera.—The opinion attributed to Surgeon-General Wyman, of the Marine-Hospital Service, that this country has an even chance of escaping cholera this year, and that, if the disease should

reach our shores, it is not likely to become epidemic, is shared by most sanitarians. The absence, up to the present time, of any general outbreak in Europe is a favorable circumstance. Clear views as to the etiology and prophylaxis of cholera on the part of medical men and the wide dissemination of this knowledge among the people justify the hope that no general epidemic will ever again occur in the United States. Such immunity, however, can only be obtained at the price of untiring vigilance.

Strict quarantine and local sanitation must be constantly maintained. The experience of last year warrants the expectation that, despite its theoretic shortcomings, our quarantine is adequate to protect our shores at the principal ports of entry under ordinary circumstances of cholera-transportation.

The success with which our local boards of health shall be able to protect us in the event of the disease gaining actual foothold upon the seaboard remains to be seen. It will be measured not so much by the efficiency of the boards themselves as by the coöperation of the profession and, through it, of the citizens of any given municipality.

The best attainable sanitary condition in advance and always and the promptest recognition and management of first cases are essential measures of prophylaxis.

It is scarcely to be hoped that, under existing conditions of want of sanitary organization and scattered population, this country can cope with epidemic diseases, and particularly with cholera, so ably as the British Isles; but we are far from powerless in the matter, and the circular just issued by the Standing Committee on Cholera of the College of Physicians of Philadelphia, inviting the coöperation of the profession in the detection and abatement of unfavorable local conditions, and foreshadowing a closer and more active organization, should cholera actually appear, is a move in the right direction.

The Diagnosis of Dilatation of the Stomach.—The last decade has witnessed a great advance in our knowledge of the diseases of the stomach, and our means of diagnosis in this department have been considerably extended. A better and fuller understanding of the chemism and physiology of this important viscus has laid the foundations for a rational and successful therapeutics. One of the most troublesome of the disorders of the stomach that are not directly mortal is gastrectasis. The diagnosis is simple when the dilatation has reached an advanced degree; but the results of treatment will be in direct ratio to the earliness of the recognition of the condition and the application of appropriate remedial measures. In a recent communication upon this subject, AUFRECHT (*Centralbl. f. klin. Medicin*, No. 23, 1893, p. 474) describes two physical phenomena that he has observed in a large proportion of cases of gastrectasis at an early stage, and to which, in conjunction with other symptoms, he attaches considerable diagnostic significance. The first of these consists in a variation in the percussion-note: a gentle blow struck over the stomach in the same situation will at one time be dull, and at another tympanitic. This phenomenon is to be ascribed to the more voluminous and more energetic peristaltic contraction of the hypertrophied wall of the stomach. The

second sign consists in a cracked-pot sound upon percussion over the stomach, which is best elicited at the junction of an area of circumscribed dullness and the adjacent tympanic area. This is to be explained by the vibration of the volume of air in a portion of the stomach undergoing relaxation secondary to preceding contraction. There seems to be reason to believe that the hypertrophy of the wall of the stomach, upon which both of these phenomena are supposed to depend, precedes for a variable time the occurrence of dilatation.

Medical Legislation in Connecticut.—Connecticut, too, has fallen into the line of medical progress. Its State Legislature has recently passed a bill providing for the appointment by the State Board of Health of three Examining Committees, each to consist of five physicians selected by the Connecticut Medical Society, The Connecticut Homeopathic Medical Society, and the Connecticut Eclectic Medical Association, respectively. Each committee is to frame its own questions and conduct its examinations in writing, and both questions and answers are to be placed on file with the State Board of Health. Applicants for the privilege to practise need but be graduates of medical colleges that are recognized as reputable by any one of the chartered medical societies of the State. The license confers the privilege to treat, operate, prescribe, or practise surgery or midwifery "only in the kind or branch of practice as stated in the certificate of registration." The sectarians are already complaining that the State examinations, even as conducted by three boards, are excluding an undue proportion of their disciples. It would be a mortal blow to make them practise what they preach.

A Peculiar Form of Nasal Obstruction.—Attention has been called to the fact that the current of air through the nares may be obstructed by the approximation of the structures of the *alæ nasi* with those of the septum narium as a result of deep inspiratory effort. The tendency to this form of closure is increased by the recumbent posture, especially during sleep. When the interference with the aëration of the blood reaches a certain degree the sleeper is aroused, and full inspiration affords temporary relief. This condition may be a source of annoyance, if not of real danger, during the inhalation of ether or chloroform, for purposes of anesthesia. It seems to be dependent upon an enfeebled condition of the dilators and levators of the nose. The introduction of a small body like a shirt-button is sufficient to relieve the obstruction.

A Course of Instruction in Sanitation and Hygiene.—In addition to the activity in professional circles in connection with the institution of measures calculated to prevent the introduction and dissemination of cholera, the American Society for the Extension of University Teaching announces that a course of instruction in sanitation and hygiene has been arranged, to be conducted by Dr. John S. Billings and Dr. A. C. Abbott, Director and First Assistant, respectively, in the Laboratory of Hygiene of the University of Pennsylvania. The course is to open on July 6th and to continue for twelve days at 8.30 A.M.

SELECTION.

"THE CITY OF MAGNIFICENT HOSPITALS."

AN American contemporary proudly asserts that New York might well be called the "City of Magnificent Hospitals." The reason which has led to this outburst of praise is the fact that three new large hospitals are in process of erection in the city, while a fourth is shortly to be commenced. No other city in the New World, we are informed, "can compare in extent with the palatial character and the scientific completeness of its hospital buildings," and "when these various new structures are completed they will form, taken in connection with the other institutions, a magnificent tribute to human philanthropy and medical science." But it is quite possible to have too much of a good thing, even of philanthropy. What have the general practitioners, or, as they are called in the States, "physicians," to say upon this subject? Can they possibly hail with acclamation the foundation of four new hospitals in New York, when the establishment of each institution of the kind must conceivably reduce the number of their private patients? New York may be a "city of magnificent hospitals," but whether the policy has been a sound one which has made it so is entirely another matter. Upon the whole, quite possibly the profession generally would be prepared to dispute the expediency of all this lavish expenditure upon hospitals; both on professional as well as on public grounds, the facilities for charitable relief should be kept within due bounds.—*Medical Press and Circular*, June 7, 1893.

REVIEWS.

INFLUENZA: ITS PATHOLOGY, SYMPTOMS, COMPLICATIONS, AND SEQUELS; ITS ORIGIN AND MODE OF SPREADING, AND ITS DIAGNOSIS, PROGNOSIS, AND TREATMENT. By JULIUS ALTHAUS, M.D., M.R.C.P. Lond.; Senior Physician to the Hospital for Epilepsy and Paralysis, Regent's Park. Second edition, much enlarged. 8vo, pp. 401. London: Longmans, Green & Co., 1892.

MUCH new matter has been added to this admirable study, and it is further enriched with a copious reference-list to the literature of the past three years. It is a contribution to medical history that will have permanent value, and none the less so that it is well indexed. The author elaborates and brings new facts to support his theory that "grippe-toxin" acts as a depressant to the central organic nervous system.

We are glad to note the due prominence given to sanguinolent discharges from the nose among the diagnostic points. Indeed, we have found alarming epistaxis a most troublesome complication in many cases. The richest portion of the book is that dealing with the psychoses, paralyzes, and other neural sequelæ of influenza. The section on treatment is unsatisfactory by reason of its fulness. Many authors are quoted, and uncritically, though often their recommendations are worthless. We are disappointed to find not only no clear note of warning against the dangers of antipyretics, but even to see them advised.

We have no doubt that antipyrin was responsible for much of the mortality that figured in death-certificates as heart-failure or influenza. It is true that the author recommends the safeguarding of antipyrin by digitalis—but the better practice is to give neither.

HANDBOOK OF MATERIA MEDICA, PHARMACY, AND THERAPEUTICS. By SAMUEL O. L. POTTER, A.M., M.D., M.R.C.P. Lond. Fourth edition, revised. Pp. 781. Philadelphia: P. Blakiston, Son & Co.

THE exhaustion within thirteen months of the third edition of Dr. Potter's Handbook, and the demand for a fourth, is in itself sufficient proof of the merited popularity of this work. The features of the book which have done so much to make it a favorite textbook on Therapeutics remain materially unaltered in the present edition. Changes, however, have been made, and the entire text has undergone a thorough revision. The book is essentially one of the accepted materia medica, and only such of the newer remedies as have risen into popular favor because of well-established therapeutic value have been admitted. The omission of such agents as hydrogen dioxid, pyoktanin, the strontium salts, is, however, criticisable. A special and very practical feature is the section on Applied Therapeutics, occupying at least a quarter of the contents of the volume. The book is a thoroughly good one.

PSYCHOPATHIA SEXUALIS, WITH ESPECIAL REFERENCE TO CONTRARY SEXUAL INSTINCT. A MEDICO-LEGAL STUDY. By DR. R. VON KRAFFT-EBING, Professor of Psychiatry and Neurology, University of Vienna. Authorized translation of the seventh, enlarged and revised, German edition. By CHARLES GILBERT CHADDOCK, M.D. Philadelphia: The F. A. Davis Company, Publishers.

IN its original language this work has long been well known by physicians. One cannot help wondering if its publication in English may not be a somewhat hazardous step, in view of the fact of its possible dissemination among the laity, always sharply on the lookout for facts of the kind. Although these facts are here given with evident scientific motive and manner, it is indeed a large gathering of peculiar morbid, mental, and emotional sexual histories that should be as little known by the unscientific as possible. The translation is well done.

LESSONS IN PHYSICAL DIAGNOSIS. By ALFRED L. LOOMIS, M.D., LL.D. Tenth edition, revised and enlarged. New York: William Wood & Co., 1893.

As a specimen of bad bookmaking it would be hard to excel the publishers' portion of this work. Poor paper, insufficient margins, and execrable illustrations detract from the pleasure with which one should read or study Dr. Loomis's admirable exposition of his subject. A tenth edition has passed beyond the domain of criticism. It is only to be said that the gifted author has brought his book fully abreast of the advanced knowledge of the day, without forgetting the teachings of the past. It is a book well worth the having, giving briefly,

but without important omission, the principles and practice of the various methods of clinical examination by the unaided senses or with instruments of precision, and elucidating the diagnostic and pathologic significance of the information so obtained.

THE JOHNS HOPKINS HOSPITAL REPORTS. Report in Pathology, III. Vol. iii, 1893, Nos. 4, 5, 6.

THIS report contains five interesting contributions. Simon Flexner records two cases of multiple lymphosarcoma, in the lesions of which he found round, oval, or slightly irregularly-shaped bodies, which he thinks may be sporozoa, and of etiologic significance. Henry J. Berkeley contributes a most interesting and elaborate histologic study of the cortex of the cerebellum of the dog; W. T. Councilman reports a case of chronic nephritis in a cow, with the results of a histologic study; H. L. Russell considers the relation of bacteria to vegetable tissue; William T. Howard presents an analysis of 105 cases of hypertrophy of the heart from the autopsy records of the Johns Hopkins Hospital. Taken altogether, the report is a most creditable and valuable one.

ELEMENTARY PHYSIOLOGY FOR STUDENTS. By ALFRED T. SCHOFIELD, M.D., M.R.C.S. 12mo, pp. xii, 372. Philadelphia: Lea Brothers & Co., 1892.

THIS little volume is neither more nor less than its title implies. It would be difficult to believe that it is intended for medical students, although it will find a useful place among the text-books employed in high schools and normal schools. It is most skilfully put together, and a vast deal of ground is covered without cumbersome verbiage or unnecessary discussion. The language is clear and perspicuous. The arrangement is natural and consecutive. The typography is excellent. The illustrations are numerous and well executed. The book deserves to become popular.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY, FOURTH SESSION, HELD AT BOSTON, MASS., MAY 2, 3, AND 4, 1892. Edited by WILLIAM PERRY WATSON, A.M., M.D., Recorder. Volume IV. Pp. 276. Bailey & Fairchild, 1893.

THIS book does not now call for extended review, as Dr. Osler's presidential address, with its caution against a too narrow specialism, has been published in THE NEWS, and most of the admirable papers have, during the year, been abstracted or commented upon in this journal or elsewhere. As a whole, the volume is creditable, and the papers on diphtheria especially are of permanent value.

TRANSACTIONS OF THE JOHN GUITÉRAS MEDICAL SOCIETY OF UNDERGRADUATES, UNIVERSITY OF PENNSYLVANIA, 1892-1893. Philadelphia: University of Pennsylvania Press, 1893.

THIS little brochure contains an address by the patron of the society, and a dozen communications of interest by members of the society and professors, and other instructors in the University of Pennsylvania, and reflects much credit on all concerned.

SPECIAL ARTICLE.

THE STATE OF PREPARATION OF NEW ORLEANS AGAINST AN INVASION OF CHOLERA.

BY F. W. PARHAM, M.D.,
OF NEW ORLEANS, LA.

THE state of preparation of New Orleans against an invasion of cholera may be considered under two heads:

- A. Quarantine arrangements against the introduction of the disease.
- B. The sanitary safeguards in the city itself.
- A. The quarantine establishment of New Orleans consists of the following stations:
 1. That at Port Eads, at the head of South Pass.
 2. The Lazaretto, in Pass à l'Ouvre, an unused pass, out of the way of all incoming ships.
 3. The Mississippi River Quarantine-station, situated about ninety miles from New Orleans.
 4. The Rigolets Quarantine-station, on the strait between Lakes Borgne and Pontchartrain.
 5. The Atchafalaya Quarantine-station, near Morgan City.

The fourth controls all approach through Mississippi Sound and Lake Borgne into Lake Pontchartrain, and the fifth keeps guard over all vessels from the Gulf up through the Atchafalaya. Comparatively speaking, these latter stations may be regarded as unimportant, as our great danger of cholera importation *by sea* lies in the Mississippi River. Our reference, in this paper, will therefore be to the quarantine-establishments in the river, as carried on at the three stations enumerated. We shall discuss these in the order named.

1. Port Eads. No vessel from any quarantinable port is allowed to come into the river during the night. All such vessels are boarded in daylight by the Medical Inspector of the State Board of Health of Louisiana. If this officer finds no reason to suspect a ship, she is given free pratique and comes on up to the city. If cases of infectious disease are found on board, the ship is sent at once to the Lazaretto, to be there treated according to the regulations at that station.

2. The Lazaretto. This is the infectious-disease station. It is situated some distance away from the course of vessels, and about five miles from the main station, to be next described. All vessels with cholera on board would be sent directly to the Lazaretto station from Port Eads. The sick would then be removed to the hospital and the well located at a safe distance. Ample provision will be made here for all contingencies that may arise in connection with the hospital treatment of the sick or the accommodation of the well. Considering the facts that the fastest ships require not less than two weeks for the trip from European ports to New Orleans, and, further, that few immigrant ships come to this city, we can believe that the Lazaretto would rarely become crowded with persons from infected ships. When all, sick and well, had been removed from the ship, she would then be disinfected from the tug, which would go down for that purpose from the Mississippi River Quarantine-station. The sick having all recovered, the passengers would be taken on board and she would proceed to the station now to be described.

3. The Mississippi River Quarantine-station. At this station, about ninety miles from the city, the final, and a most efficient, disinfection is administered to infected ships. Steam, sulphur dioxide under pressure, and mercuric chlorid solutions are the disinfecting measures employed. Four ships can easily be attended to in one day. The provisions for steam disinfection of textile fabrics are especially effective. The disinfection, as practised here, seems, to all who have personally investigated it, the most satisfactory in operation at any port on this continent.

I say nothing of railroad quarantine, because I believe little can be done in this way, for obvious reasons, when cholera shall once have gained entrance into one of our cities. Strict surveillance of all incoming trains, both passenger and freight, is contemplated when the disease has once come into some other port, but no special preparation is at present making to that end, although facilities are ample for providing, on short notice, adequate inspection.

B. The sanitary safeguards in New Orleans.

It must at the outset be confessed that sanitation is at its lowest ebb in New Orleans. The unpaved and dirty condition of many of our streets, the choked-up condition of many of our gutters, the miserable garbage service, the antiquated and deplorably unsanitary privy-vaults and cesspools, some of them having overflow-pipes into our street gutters, and the general disregard of sanitary precautions until some threatening danger rouses our community from its lethargic condition—all these considerations make the sanitarian heart-sick in the face of an impending invasion. If our people could really be brought to believe, with Goethe, that "In peace, patriotism really consists only in this, that every one sweeps before his own door, minds his own business, also learns his own lesson, that it may be well with him in his own house," then cholera-epidemics would lose for us half their terrors.

Last September, under the stimulus of a few suspected cholera-cases in New York, our people, through the exchanges, urged on by the Board of Health, did make a spasmodic effort to get our streets into a cleanly condition. Many of our gutters were unchoked and streets were cleaned, garbage was more promptly removed, and the people generally were brought to a realization of our sanitary necessities. They were made to believe that cholera revelled in filth and that cleanliness was its abomination. With a long pull, a strong pull, and a pull altogether, *something* was done. New Orleans got into her best plight—for a time. The cholera did not come, and our work seemed to have been in vain. At least, having kept the cholera out, nothing more was needed. Our city quickly relapsed into its former condition, and not only that; for, taking its example of the pendulum, having swung so far in one direction, it has now gone to the extreme in the other. It can be truly said that our city never was a more shining mark for cholera than at present. It is true that under the urging of the Board of Health something seems at last to be contemplated for the improvement of our garbage service; that the New Orleans Sewerage Company, under the able presidency of Dr. Joseph Holt, has matured, with the assistance of the best engineering talent of this country, its plans for an admirable system of sewerage, which

will do away with our death-dealing vaults; but these changes can only be effected with time, and our consideration must be of the present.

The city is under control of a political organization, which is not patriotic but self-loving, and little can be expected of it beyond what the public will demand in time of imminent danger. That cholera will gain entrance into this country through New Orleans, our efficient quarantine in the river negatives, so that we must await its coming most probably through New York, or some other port in closer touch with Europe. When it shall have once more pressed its way in, then will our people awake again from their careless sleep and our city will a second time be cleaned, our garbage service will be made more efficient, our privy-vaults will be emptied, and disinfectants will be freely used about drains and yards.

A source of greater satisfaction is our water-supply, wherein we will yield to no superior. Our water is derived from the following sources:

1. The deep or artesian wells. A very careful analysis of these waters has been made by Prof. A. L. Metz, Chemist of the Louisiana State Board of Health. These analyses, all made in duplicate and once or twice in triplicate, show these waters to contain "albuminoidal material that has partly undergone decomposition, and the results of analyses for free ammonia are high, and the presence of nitrites and phosphates indicate sewage-contamination." We can, with Prof. Metz, declare "the deep well-water of the City of New Orleans unfit for domestic purposes."

2. Drove well-water is likewise to be condemned.

The only waters that deserve our consideration are, then:

3. Rain-water, and

4. Mississippi River water.

Rain-water. This is caught from the roofs of houses and stored in cypress (overground) cisterns. Rain-water may be contaminated from several sources:

1. Location in proximity to privy-vaults. Analysis shows this to be a positive source of contamination. This can only be entirely corrected by the adoption of sewerage, although it can be rendered less dangerous by removing the cistern further off from the privy.
2. The washings of the atmosphere and dirt from roofs. This dirt consists of soot, ammoniacal salts, inorganic and organic material from birds, dead insects, decayed leaves, and the like. Accepting the maximum limit of safety of Dr. Smart as 0.020 parts of albuminoidal ammonia per 100,000, much of our cistern water, according to the analysis in 1891, of Prof. Metz, must be regarded as distinctly unwholesome, some showing as much as 0.080, 0.090, and 0.093 per 100,000. If, however, cisterns are cleaned semi-annually and some one of the numerous cut-offs recommended be used, so as to turn off the first washings of the roof from the cistern, this organic matter would be materially diminished. The danger would be still further lessened by the providing of covers for cisterns. We have city ordinances making such covers obligatory, but we have no ordinance requiring the cleaning of cisterns. While much of our cistern water may be considered unsafe for use, still, as a whole, with the indicated precautions taken, it will compare favorably with the water-supply of other cities. During an epi-

demic of cholera, moreover, we might regard such water as far less likely to become contaminated than many of the comparatively limited sources of supply of some of our larger cities; for drainage, at least, would not be a source of danger to our cisterns.

River water. From the careful analysis made by Mr. Metz, this source of supply must be pronounced far the safest for us in a time of cholera-prevalence, no sample of filtered water showing a quantity of albuminoidal ammonia anywhere near the danger-limit; and this must, as our analyst says, be considered "the purest water attainable in this section under existing circumstances." The water has of late been much improved by the introduction of a filter at the works, which now furnish a fairly (although not uniformly) clear water to the people of the city. The misfortune is that the high water-rates have prevented many from taking advantage of this purest source of supply, and these must perforce fall back upon their overground cistern. With attention to the precautions suggested, we can, however, expect no insurmountable difficulty in dealing, during an epidemic, with the problem of drinking-water contamination.

The milk-question might properly merit some consideration here, prone as milk admittedly is to become contaminated with infectious poison, and being of such general necessity. Our milk is delivered, first-hand, from carts directly from dairies to their customers. The Board of Health has made a strong effort to secure a pure milk-supply. In this we have been gratifyingly successful. Only recently the courts have conceded the authority of the Board of Health, under city ordinances, to regulate this matter for the good of the community, and numerous convictions have taught such a salutary lesson that we believe we shall, in the future, have far less trouble in compelling dairymen to furnish unadulterated milk. Starting with a pure article of milk, the precautions to be taken, as to boiling, etc., will insure its safety in time of cholera-epidemic.

A consideration of the foregoing facts would lead one to say that New Orleans is well prepared to prevent the entrance of cholera, but that she is not in such a sanitary condition as would make it easy to cope with the disease after it had once gained a foothold here. Watchful vigilance and an energetic handling of the first cases on the part of our very efficient Board of Health might save us, but the fight with us would be against great odds.

427 PRYTHANIA STREET.

CORRESPONDENCE.

COMPLICATIONS OF TONSILLOTOMY.

To the Editor of THE MEDICAL NEWS,

DEAR SIR: Desiring to present an article on the subject of "Complications of Tonsillotomy" at the next annual meeting of the Louisiana State Medical Society, I respectfully solicit answers to the following questions:

1. Number of cases of hypertrophy of faucial tonsils operated upon;
2. Complications occurring during these operations, stating nature of complications and number of cases affected;
3. Method of operating in the cases in which these complications developed. In publishing

these cases, I shall, if desired, omit the name of the physician who reported them.

I shall mail a reprint of the article to those physicians who send me a report of their cases.

Very respectfully,

W. SCHEPPEGRELL, M.D.

EYE, EAR, NOSE, AND THROAT HOSPITAL, NEW ORLEANS, LA

SOCIETY PROCEEDINGS.

AMERICAN MEDICAL ASSOCIATION.

*Forty-fourth Annual Meeting, held at Milwaukee, Wis.,
June 6, 7, 8, and 9, 1893.*

(Continued from page 702.)

SECTION ON NEUROLOGY AND MEDICAL JURISPRUDENCE.

FIRST DAY—JUNE 6TH.

THE Chairman, DR. C. K. MILLS, of Philadelphia, delivered an address entitled "The Influence of Special Societies and Section Work on the Development of Neurology in America." He suggested the advisability of limiting the time for discussion to five minutes, except in the case of the reader of the paper, who should close the discussion. He referred to the excellent work done by the Philadelphia Neurological Society, citing this as an example of the advantage of such societies. The American Medical Association can best advance by allotting special work to the sections. The appointment of committees to do special work has been of great value. Too many isolated cases are, however, reported, and papers have not always been well prepared. A great advantage of small societies is that they secure definiteness of aims.

DR. HENRY H. DONALDSON, of Chicago, read a paper on "The Weight of the Brain." In a large number of examinations it has been shown that the weight of the brain is greater in the male than in the female; that it is not unusual in insanity except in cases of wasting disease; and that the brain wastes slightly in old age. These observations, however, are taken from the unfortunate classes. It has also been shown that the brain increases rapidly in size from birth up to seven or eight years, and thereafter more slowly up to fifteen or twenty. Then for the next few years there usually occurs a slight falling off in weight, which, in turn, gives place to an increase up to thirty-five or forty, the weight remaining constant for ten or fifteen years, and then decreasing. These data are obtained from an examination of dead, and not of living subjects; so that the curve representing the course of brain-growth cannot be taken as indicative of the growth of the individual brain. A study of the favored classes might yield different results. Brain-growth is especially rapid during the first year. Cells and their prolongations are the structural elements of the nervous system. All nerve-cells are formed before birth, and the brain increases after birth by the enlargement of the elements already present, and not by the formation of new elements. The granules in the cortex and other localities are undeveloped nerve-cells, which, by growth, are transformed into the characteristic ganglion-cells. The conditions of growth must be delicate; as two individuals, starting

with nerve-cells of the same weight at birth, arrive at maturity with very different brain-weight. The size and number of the elements and relative abundance of the medullary substance must be the next step in the interpretation. Race, age, sex, stature, bodily weight, mental condition, individual development, and cause of death are all factors to be considered.

DR. C. H. HUGHES, of St. Louis, read a paper entitled "Dyspepsia as a Nervous Disease, or Indigestion in Its Nervous Aspect and Relations." He pointed out that dyspepsia, as it is generally encountered, is more frequently a secondary than a primary disease; secondary to degenerative or exhaustive changes in the central nervous system. It is a well-known fact that the lowest animals do not have dyspepsia; that the elements of dyspepsia are first observed in trained animals, in consequence of habits of life and environment that bring about the neurotrophic condition from which dyspepsia arises as a secondary manifestation.

DR. J. MADISON TAYLOR, of Philadelphia, read a paper entitled "Abstract of Notes on the Treatment of Exophthalmic Goiter." He reviewed the relationship of exophthalmic goiter to other vascular disturbances associated with enlargement of the thyroid, as myxedema, cretinism, and akromegalia. Current knowledge of the physiology of the thyroid gland does not warrant the hope that much is to be expected from the use of preparations of the gland in the treatment of exophthalmic goiter. A number of cases long under observation were analyzed, and the following summary of treatment was presented:

Regulated rest, with carefully graduated activity, as time and circumstances warrant; systematic measures directed to the upbuilding of the general health; careful attention to nutrition, recognizing the trophic element in the disorder.

Careful attention to the vascular condition, which is most noticeably at fault and which demands the most constant treatment. This includes various measures regulating vasomotor activity, as well as loss of nervous force through the easily disturbed nervous balance. The skin is to be acted upon from the surface by means of certain remedies that seem to exert a control over the constant tendency to vasomotor neuroses, both superficial and deep.

The searching out and remedying of constitutional defects; the elimination of accidental poisons, either diathetic or temporary, or of toxins from whatever cause.

The regulation of the nervous or emotional balance, by careful attention to the habits and environment of the individual; carefully regulating, so far as is possible, emotional strains; making much of moral teachings with those whose will-power and mental equilibrium are gravely at fault constitutionally and as the result of months or years of suffering and susceptibility.

A careful consideration of such measures as are regarded as specifics, as electricity.

DR. DANIEL R. BROWER, of Chicago, read a paper entitled "Suggestions on the Treatment of Locomotor Ataxia." He said that some cases of posterior spinal sclerosis may be cured and some may have the rate of progression considerably impeded. If the disease is recognized in the pre-ataxic stage, rest for three months should be the foundation of the treatment. Potassium

iodid and fluid extract of ergot in full doses, and galvanism are of value. Hypodermatic injections of morphine are valuable to relieve paroxysms of pain. The digestive organs should be carefully guarded, and alcoholic stimulants and sexual intercourse prohibited. In the second stage or the stage of incoördination, when the disease usually progresses rapidly, ergot will sometimes prevent the progression. Suspension of service, continued as long as possible, from five to fifteen minutes. In this stage the injection of chlorid of gold and sodium is advisable, at the same time employing zinc phosphid and sodium arseniate, as well as galvanism; no benefit may be expected from the internal administration of any preparation of silver. Cold bathing is of value; hot baths are contra-indicated. The pains of the second stage are met by morphine; sometimes phenacetin, antipyrin, or the like answers the purpose better. Patients can be taught to regain some degree of coördination by the practice of standing with the feet close together and the eyes closed. If the patient stands in the bath-tub and has cold water poured on his spine, coördinating control will be more speedily regained. The bladder will need attention to avoid cystitis. Hypodermatic injections of morphine may be used for the relief of gastric crises. In the third stage tonics are indicated; galvanism to the spine and faradism to the surface; injections of cerebrin and other animal products have thus far not yielded favorable results.

DR. T. D. CROTHERS, of Hartford, recommended Turkish baths in treatment, and said sometimes an apparent cure is thus effected.

DR. C. H. HUGHES, of St. Louis, suggested that in cases of apparent recovery the correct diagnosis should have been multiple neuritis.

DR. L. HARRISON METTLER, of Chicago, read a paper entitled "Hemiparaplegia; Report of a Case Completely Recovered after One Year's Duration."

The conclusion was reached that hemiparaplegia may result from a lesion in the lower part of the cord, anesthesia and paralysis appearing upon the same side of the body.

DR. METTLER also read a paper on "Aural Vertigo—Ménière's Disease." He said that medical literature abounds in cases wherein a sudden attack of vertigo, associated with loss of hearing, was diagnosticated as hemorrhage into the labyrinth, without further investigation into the correctness of the inference; but vertigo as a mental phenomenon seems to be of far too complicated a character to presuppose so simple an origin. If the views of Spitzka and Starr are correct in regard to the sensory paths in the medulla, they bear strongly in favor of the sensori-motor theory of vertigo. Every indication points to the fact that the center of equilibration must be looked for, not in one particular part of the brain, but in the harmonious action of the various sensory and motor centers one upon the other. Ménière himself seems to have believed that only the semicircular canals are affected in true Ménière's disease. He, however, ascribed cerebral symptoms to a lesion of the canals on the strength of a single observation, and even that observation was not conclusive as to that particular case. Much confusion has arisen in regard to aural vertigo. Disease of any part of the internal ear, and even of the middle ear, has been termed Ménière's, though Ménière

himself restricts the designation to disease of the semicircular canals. Gowers strongly supports the labyrinthine origin of vertigo, but his proofs are inadequate. Though the implication of the semicircular canals in aural vertigo be admitted, it still remains a difficult matter to explain upon his hypothesis the vertiginous symptoms and loss of hearing in all cases. The semicircular canals in the shark have been removed without causing any disturbance of movement. There is no regular correspondence between the degree of deafness and the intensity of the vertigo with total loss of hearing in Ménière's disease. All known methods of diagnosis prove that the nerve itself and not merely the internal ear is affected. Physiologic experiment shows that simple pressure does not cause total loss of hearing, when no injury is done to the cochlea, and no case has ever been reported in which the cochlea was primarily affected, with consequent involvement of the canals and vertigo. Hence it is concluded that in Ménière's disease the lesion must concern the whole labyrinth or lie entirely outside of it. There is little doubt about the central nature of the disease in many of its aspects. The sense of irritation may sometimes be in the semicircular canals, just as sometimes it may be in the eye or in the stomach, but the immediate cause of the vertigo cannot be there, and in view of the few physiologic and pathologic data at hand, there is no justification in assigning all cases of vertigo to an unknown and undemonstrable lesion of the internal ear.

DR. WILLIAM FULLER, of Grand Rapids, Mich., read a paper entitled "A Method of Localizing Points in the Hemispherical Ganglia." He presented a model of the brain made by hardening with great care, separating the lateral halves and slicing each half into segments, three-sixteenths of an inch thick, perpendicular to the long axis of the brain.

DR. FULLER also presented a communication entitled "An Examination into the Question of Priority in Craniectomy for Idiocy." He stated that in 1887 he performed craniectomy for the relief of idiocy, an account of which was published in the *Canadian Medical and Surgical Journal*, in 1887. The operation was ridiculed in both America and Europe at the time, but has since been claimed as originating with European surgeons.

SECOND DAY—JUNE 7TH.

DR. THEODORE DILLER and DR. J. J. BUCHANAN, of Pittsburg, Pa., presented a paper entitled "A Case of Subcortical Cyst of the Lower Part of the Ascending Parietal Convolution; Operation; Recovery." Nearly all of the important symptoms of intra-cranial growth were present: Headache, vomiting, vertigo, convulsions, and paresis. From the history of the case it was evident that a lesion was located in the left Rolandic region, involving principally the hand-center. The absence of sensory symptoms seemed to indicate that the lesion was situated anteriorly to the Rolandic fissure, and from the fact that paresis preceded convulsions, the lesion seemed probably a subcortical one. The relative method of Thane was employed to locate the fissure. A thin sheet of aluminum was employed, cut in the form of a segment of a circle, having an angle of 67° and a radius of three and three-eighths inches, and moulded to fit the average skull, when its straight sides

are applied respectively to the median line and to the part of the scalp corresponding to the fissure of Rolando. While the result of the operation fell considerably short of an entire cure and was, in a measure, disappointing, yet it was followed by distinct and unmistakable benefit to the patient. It is too early to tell what the ultimate result will be. The case offered strong evidence in support of the view that the ascending frontal convolution is exclusively related to motor functions. The cortical representations of the forearm and hand are located in the ascending frontal convolution; the cortical subdivisions of the arm-area are related to each other as follows in the ascending convolution: that for the shoulder is highest, with the elbow, wrist, fingers, below in the order named; the center for the thumb is located in the ascending parietal convolution, a little below that for the fingers. The case confirms the theory that a subcortical lesion is likely to produce paresis before convulsions, and exemplifies the general principles of localization as enunciated by Horsley, Sequin, Mills, and others.

DR. C. B. BURR, of Pontiac, Mich., read a paper on "Surgery in the Insane." He presented a collection of cases illustrating phases of surgery that come under the eye of the hospital alienist, including gynecologic operations; also two cases of melancholia, in each of which trephining had been performed, without relief. Cases illustrating the curative effect of operations, *per se*, are well known to alienists and which surgeons are of late beginning to recognize. Hernia and perityphilitis are relatively common in the insane, but often escape notice.

DR. H. N. MOYER held that the element of consent is extremely important, especially when surgery of a radical character is practised, as, for instance, the removal of tubes and ovaries when there is no apparent local disease, for the effect upon the general nervous system. He said that shock is comparatively slight in operations upon insane persons, notwithstanding their general low nutrition.

DR. JAMES G. KIERNAN pointed out that the position of a superintendent of an insane asylum is a *quasi* legal one. He is the guardian of the patient, and under such circumstances has the right to give consent for the patient for an operation. Especially is this true in case of emergency. The removal of healthy tubes and ovaries is not likely to be followed by permanent improvement. The counter-irritation may produce a temporary improvement, but such operations are not justifiable.

DR. G. F. LYDSTON, of Chicago, Ill., read a paper on the "Therapeutic Use of Static Electricity." He contended that the use of static electricity in medicine has been too closely restricted to the more advanced neurologists. He has found it a valuable agent, especially in the treatment of neurasthenia, particularly in the forms associated with brain-fatigue and sexual hypochondriasis. The application of the static current to the spine has seemed to have a marked stimulating effect upon the genito-spinal center. In no case have any injurious effects been observed, but in some sensitive and neurotic patients the current should be used with a certain degree of circumspection.

DR. L. C. GRAY, of New York, said that too much had been expected in the first place from the use of static

electricity. The results had consequently proved disappointing. There was a revulsion of feeling against the agent and it had been largely discontinued, but it seems to be coming into use again. The improved machines of the present day are a great advantage; the results have been surprising in certain cases; especially has it proven useful in cases of muscular atrophy.

DR. DANIEL R. BROWER, of Chicago, called attention to the usefulness of the static current in cases of chorea, and described his method of application, which consists in placing the patient on an insulated stool and applying the current for from ten to fifteen minutes.

DR. HAROLD N. MOYER, of Chicago, presented a paper on "Sodium Arseniate in the Neuroses." He said that arsenic holds a prominent place in the treatment of nervous disorders. The objection to the use of Fowler's solution of potassium arsenite hypodermatically is that it is exceedingly irritating. Arsenic injected beneath the skin has a far less toxic effect than when administered by the mouth. Potassium arseniate possesses the advantage of giving rise to no local irritation, so that much larger doses can be employed. Dr. Moyer has given at a single dose a quantity of sodium arseniate equivalent to from forty to sixty minims of Fowler's solution. It is a common practice to give the equivalent of thirty minims of Fowler's solution as the initial injection. In order to prepare accurate solutions for hypodermatic use, it is necessary to subject the salt to a temperature of about 300°, which drives off the water of crystallization.

DR. M. V. BALL, of Philadelphia, read a paper on "Insanity Among Convicts." He said that when communities recognize that "every society deserves the criminals it has," they will endeavor to correct the evils that in large part cause crime, and will treat malefactors not with a spirit of vengeance, not with a visitation of justice, not as sinners, but merely as obstructionists whom society must place under restraint or remove to a place where they can be of service instead of hindrance; then only will the penal question reach solution. Present modes of justice are puerile. What would be thought of the suggestion that a chronic maniac should be sent to an insane asylum for a year and then be released unconditionally; then, after he had killed someone, that he should again be sentenced for a definite term of one or more years? The danger to society alone should be considered, and the professional criminal placed in *durantia vile* until cured (if that result is possible), or permanently if incurable, and wholly as a protection to society and irrespective of his sanity or insanity, his moral responsibility or irresponsibility.

DR. LANDON CARTER GRAY, of New York, read a paper entitled "What Should Constitute Responsibility in the Medical Sense, in Insanity?" He pointed out that great injustice is likely to be done to the insane by basing the view of their insanity upon the proposition that if a man is able to understand the nature, quality, and consequences of an act, he is legally responsible for such an act. The question of legal responsibility should be determined, not by laws, but by facts. Medical science has demonstrated that a diseased condition of the brain that gives rise to mental aberration permits of no half-way ground in judging of sanity. Periods of remission cannot reasonably be called "lucid intervals,"

as is often done. After classifying the types of insanity that have been marked out up to the present time, such as the moods, the presence of hallucinations and of delusions, the coexistence of the neuroses and of organic brain-disease, traumatism from excessive use of narcotics, and the mental disturbances occurring from derangement of the organism induced by disease of non-nervous viscera, Dr. Gray called attention to the fact that in paranoia, mania, and melancholia the reasoning powers and the memory are usually intact, yet the patient has undeniable hallucinations and delusions, under the influence of which he commits acts for which he should not be held legally responsible. He cited the case of the paranoiac Dougherty, who imagined himself the beloved of Mary Anderson, and that the world was conspiring to keep him from her, and, in pursuance of this delusion, murdered Dr. Lloyd, of the Flatbush Insane Asylum, and was planning to kill about a dozen public officers whom he believed to be in the conspiracy. Yet he declared himself sane and asserted that he knew the nature, quality, and consequence of his act. He was properly pronounced insane, because his mania was so palpable, although some doubt prevailed in the public mind as to his insanity. The only safe test of the legal and testamentary responsibility of a man lies in an answer to the simple question: Is he insane? If he is, he is not legally responsible, and this question can only be properly decided by competent physicians, not by fine-spun theories of lawyers. Common sense must be applied to such cases rather than metaphysical definitions of mental aberration.

DR. EDWARD B. ANGELL, of Rochester, N. Y., read a paper entitled "Double Lesion of the Brain: Cerebral Cyst and Cerebellar Tumor." The post-mortem examination demonstrated an increase in the development of the brain on the right side, which had to take up the functions of the disorganized left side.

DR. JAMES G. KIERNAN, of Chicago, referred to a case of right hemiplegia with aphasia in an adult in which, by education, speech was regained, but was lost after a second attack. The autopsy showed that the left speech-center had been destroyed in the first attack by hemorrhage, and the second attack destroyed the right.

DR. J. N. HALL, of Denver, Col., read a paper entitled "Gunnery Developments and the Medical Jurist." He said that newly introduced explosives are rapidly replacing black powder. He described the two most commonly used of these products—the American wood-powder and the Schultze powder. The staining from wood-powder is much less distinct than that from black powder, and the staining from the Schultze powder is even less marked than that from wood-powder. Neither of the two new powders ignites cloth or blotting-paper at so great a distance as does the black powder.

DR. HAROLD N. MOYER called attention to the fact that the length of the barrel of the weapon should always be considered in making up tables, and stated that there is always leakage of gases in revolvers. Another interesting point is not only the kind of powder, but also the amount of fulminate in the fixed ammunition, as well as the manner in which it is put into the cartridge, whether fine-grained or practically in a solid mass.

DR. FRANK R. FRY, of St. Louis, read a paper entitled "Sensory Symptoms of Three Syphilitic Cord Cases."

THIRD DAY—JUNE 8TH.

DR. W. J. HERDMAN, of Ann Arbor, Mich., read a paper entitled "Lesion of the Right Temporo-sphenoidal Lobe." The case reported was at first diagnosticated as one of embolism of the left anterior cerebral artery. The autopsy revealed an extensive hemorrhage anterior to and at the lower extremity of the right lateral cornu. Softening followed, involving the hippocampus major at its lower extremity and the anterior extremities of the superior, middle, and inferior temporal convolutions. The assumption was considered justified that as far as any symptoms observed in this case can be justly referred to the lesion in the right temporal lobe, they tend to show that its function is of the same nature for the left side of the body that Ferrier has found the left temporal lobe to be for the right—that is, a cortical center for hearing and taste.

DR. CHARLES K. MILLS referred to several similar cases, which appeared to demonstrate that the left upper temporal region is most particularly developed for word-sound, and the right has a minor degree of development of the same function and takes on the function of the left in part, but not entirely, in case of the destruction of the former.

DR. CHARLES K. MILLS and DR. G. E. DE SCHWEINITZ, of Philadelphia, presented a paper entitled "Hemianopsia and Certain Symptom-Groups in Sub-cortical Lesions." The first case reported presented right lateral hemianopsia, absence of Wernicke's symptom, dyslexia, temporary right hemiparesis, and Jacksonian epilepsy. In the second case there was right lateral hemianopsia, absence of Wernicke's symptom, dyslexia, right hemiparesis, partial right hemianesthesia, partial word-deafness and word-blindness. In the third case there were right lateral hemianopsia, absence of Wernicke's symptom, temporary aphasia, dyslexia, right hemiparesis of spastic type, probably word-blindness. Case four presented left lateral hemianopsia, partial left hemiparaplegia and hemianesthesia, temporary aphasia, epilepsy, Wernicke's symptom. Case five presented lateral hemianopsia, absence of Wernicke's symptom, temporary right hemiplegia, persistent hemianesthesia. Case six presented left lateral hemianopsia, left hemiplegia. Case seven presented right hemianopsia, right hemianesthesia. Case eight presented right lateral hemianopsia, doubtful absence of Wernicke's symptom, slight right hemiparesis. Case nine presented left lateral hemianopsia, absence of Wernicke's symptom at first, paresis of both legs, later right spastic crural monoparesis. Of two cases probably of cortical origin, one presented typical left lateral hemianopsia; and the second, right hemianopsia, with absence of Wernicke's symptom.

Another case was reported of right lateral hemianopsia, followed a year later by left lateral hemianopsia, with absence of Wernicke's symptom, retained macular vision, changes in the color-sense, loss of the sense of location.

A case was also reported that seemed to teach that there may be either functional or organic disturbance of the word-symbol center of the same character as that which produces hemianopsia when the half-center for general vision is destroyed on one side of the brain.

DR. THOMAS D. CROTHERS, of Hartford, Conn., read a paper on "American Inebriate Asylums."

He said that managers of asylums who teach dogmatically the nature of inebriety and its only true remedies are not far along in scientific work, and asylums that claim large percentages of cures from certain means and remedies are not worthy of confidence. Inebriety is the most complex neurosis of modern research. The gold-cure specifics, so called, are followed by an increased number of insane among those who have used the treatment. This was to have been expected, as the more powerful the narcotic used to stop the drink-symptom the more certain are insanity and profound degenerations of the brain-centers to follow. The asylum care and treatment of inebriates began first in this country, and has grown and extended to all civilized nations of the earth. American asylums have developed the disease-theory and the practical character of physical treatment in institutions beyond that of any others in this field. Asylums in the United States represent nearly all stages of development and early growth, from infancy and childhood, with its feeble conceptions and infantile efforts, to the boastful assumption and over-confidence of youth, on to the dawning truth of early manhood, when reason and judgment begin to reign. A few of these asylums discern similar great truths, which may be stated with confidence as ideals toward which there is a rapid movement. Inebriate asylums must take the place of jails and station-houses. Inebriate asylums should receive the incurable inebriates and make them self-supporting and build them up physically and mentally. Inebriate hospitals should receive the recent cases and place them in the highest conditions of enforced health and vigor, and thus restore a large number to health and sobriety. Inebriate hospitals should be self-supporting when once established. They should be managed on scientific business principles, like military training-schools. Inebriate hospitals should be built with money raised by taxes on the sale of spirits, on the principle that every business should be obliged to provide for the accidents that grow out of it. The inebriate hospitals of to-day are only in the infancy of their work, contending with great opposition and prejudice, misunderstood, condemned, and working against innumerable obstacles. There is an intense personality in inebriate hospitals. Inebriate hospitals and their work are the great new lands which only a few settlers have reached. They are calling to us to come and occupy and thus help the race on in the great march from the lower to the higher.

DR. CLARK GAPEN, of Omaha, Neb., read a paper entitled "Lawyer's Criticisms of Expert Testimony."

He said that as at present conducted the trial of a cause involving a medico-legal question is a mere farce, as compared with the trial of a cause involving a pure question of law. The medical expert should be selected by the court as an advisory, and wholly with reference to his special knowledge of the question involved. Medical jurisprudence should be properly taught in the colleges. The so-called chair of medical jurisprudence usually teaches nothing but the mummery of some text-book of ancient times. The proper way is to give a forecast of the legal experience that the student will encounter in the future. He should be taught to be frank, truthful, direct, plain, and non-technical. Students go forth unequipped in this regard. Another

cause of the disrespect of medical expert evidence is the common custom of participating in the trial both as counsel and as witness. The court might properly take testimony as to the qualifications of the expert. A good way would be to have lists handed in by each side and let the court choose from the lists. The expert should avoid invading the province of the jury and giving an opinion in the case. The proper course is to put a hypothetical question for the expert to answer.

The following papers were also read:

DR. FRANK P. NORBURY, of Jacksonville, Ill., read a paper on "Insanity in the Aged."

DR. HARRIET C. B. ALEXANDER, of Chicago, read a paper on "Acute Mental Symptoms in Children."

The following officers were elected for the ensuing year:

Chairman—James G. Kiernan, of Chicago.

Vice-Chairman—Landon Carter Gray, of New York.

Secretary—F. P. Norbury, of Jacksonville, Ill.

NEWS ITEMS.

Dr. E. O. Shakespeare has assumed editorial charge of the Department of Hygiene and Preventive Medicine of the *Dietetic and Hygienic Gazette*.

A. Kolisko has been appointed Professor of Pathologic Anatomy in the University of Vienna, in succession to Kundrat, recently deceased.

Dr. James J. Levick, a well-known physician of Philadelphia, died June 25th, of cardiac disease, at the age of sixty-eight years. He graduated from the University of Pennsylvania in 1847, and became a resident physician in the Pennsylvania Hospital, and subsequently one of the attending physicians. At a later date Dr. Levick was elected to the staff of Wills Eye Hospital. He was also connected with the Magdalene Asylum. In 1884 he received the degree of Master of Arts from Haverford College. Among his contributions to medical literature were a paper on heart-disease and one on spotted fever.

BOOKS AND PAMPHLETS RECEIVED.

Materia Medica and Therapeutics. By John V. Shoemaker, A.M., M.D. Second edition. Two volumes. Philadelphia and London: The F. A. Davis Co., Publishers, 1893.

An Inquiry into the Causes of the Mortality of Diphtheria, and Some Suggestions with Reference to the Treatment of Diphtheria. By Alonzo Bryan, M.D. Reprinted from the Physician and Surgeon, 1893.

Pocket Dose-book. Compiled by John Edwin Rhodes, A.M., M.D. Chicago, Ill.: Sharp & Smith, 1893.

Report on 100 Cases of Ether-anesthesia by Clover's Inhaler. By G. Gordon Campbell, B.Sc., M.D. Reprinted from the Montreal Medical Journal, 1893.

Reports of Friends' Asylum for the Insane, 1893. Philadelphia: George H. Buchanan & Co., 1893.

The Treatment of the Nasal Catarrhs. By William T. Cathell, M.D. Reprinted from the Maryland Medical Journal, 1890.

A Study of Two Cases of Paroxysmal Sneezing, with Treatment. By William T. Cathell, M.D. Reprinted from the Transactions of the Ninety-fifth Annual Session of the Medical and Chirurgical Faculty of Maryland.

The Recrudescence of Leprosy and its Causation. By William Tebb. London: Swan, Sonnenschein & Co., 1893.